

Commerce

SOUTHERN TEXTILE BULLETIN

VOL. 28

CHARLOTTE, N. C., THURSDAY, MAY 7, 1925

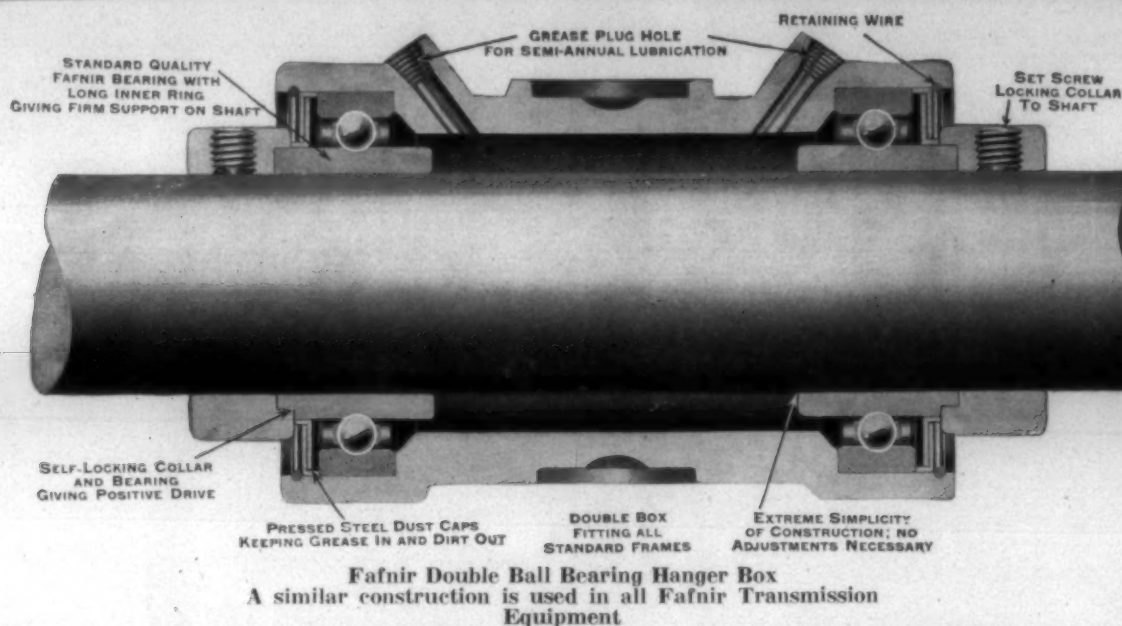
NUMBER 10

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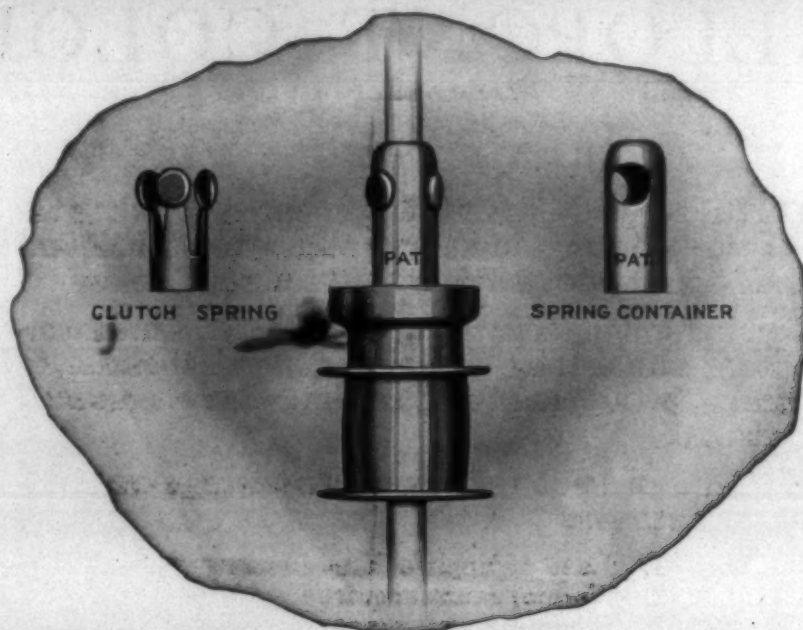
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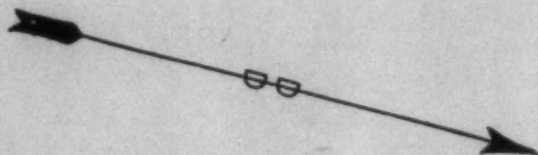
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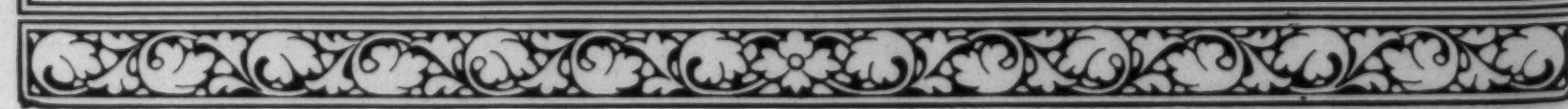
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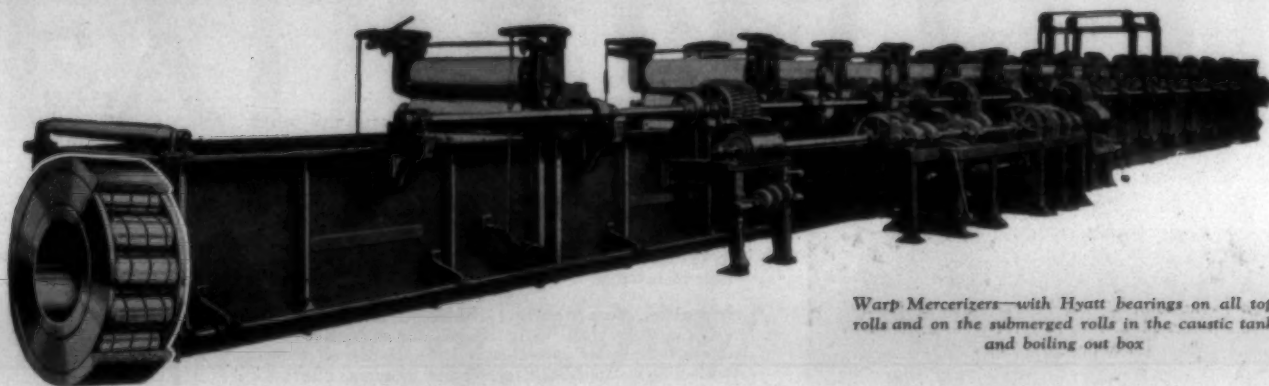
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THE illustrations of Hyatt roller bearing installations show only a few of the uses for these modern anti-friction bearings in textile mills. There are Hyatt bearings for practically all classes of textile machinery and Hyatt equipped machines are in use throughout the United States and in several foreign countries.

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A copy of the Hyatt Textile Bulletin will be furnished on request. It contains designs, photographs of installations and other information of interest.

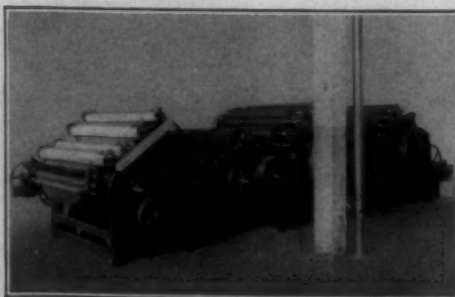
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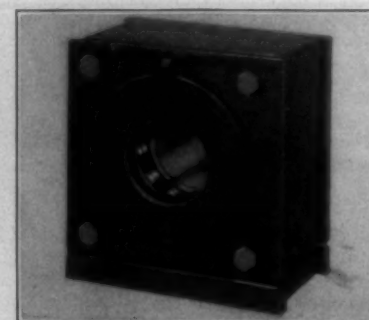
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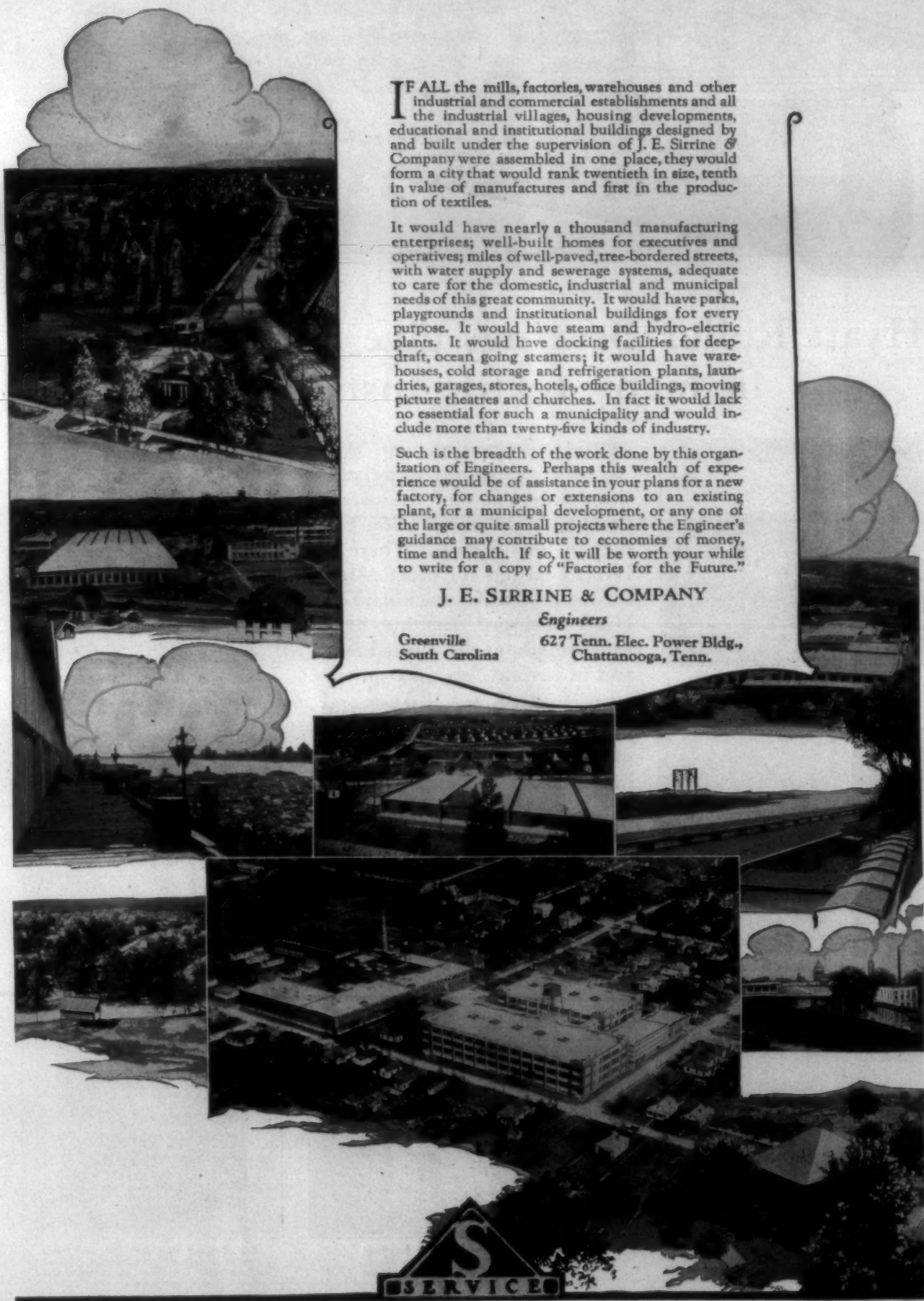
Such is the breadth of the work done by this organization of Engineers. Perhaps this wealth of experience would be of assistance in your plans for a new factory, for changes or extensions to an existing plant, for a municipal development, or any one of the large or quite small projects where the Engineer's guidance may contribute to economies of money, time and health. If so, it will be worth your while to write for a copy of "Factories for the Future."

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SOUTHERN TEXTILE BULLETIN

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NUMBER 10

Fading of Dyed Materials

THE problem of explaining the reason for colors fading is an extremely complicated one, and theories of a very varied type have been put forward to explain the actions taking place when dyestuffs and other colored bodies succumb to light exposure. Some of the investigators have sought oxidation as a means of explaining the phenomenon, others have put forward reduction as a cause. Many years ago one research worker suggested that enzymes were the cause of fading; Moisture has been assigned as the crucial agent and many other causes of a more or less complicated nature have found workers espousing their claims. Now some of these agents may have an effect—indeed some of them doubtless often have a controlling influence in causing a color to fade, but no one reason can be put forward as always being the cause of the fading influence at work.

This must be apparent when we consider the different degree of fastness of such colors as indigo on wool and cotton and the case of varying fastness of some of the direct cotton colors on these two fibres or again the excellent fastness properties of some of the basic dyes on acetate silk as compared with the looseness of the whole series generally on, say wool, or still further, the good properties which some dyes show when they are not dyed but merely exposed on glass to the atmosphere and sunlight.

The reason for the faulty deductions which have been made and the general unsatisfactory nature of many of the theories put forward appears to be that some of them have only explained a portion of fading action and the workers concerned have sought to explain the whole of fading phenomena by one chemical action, which doubtless actually did take place in a few instances.

Fading Capacity.

A point of great importance as regards the fading capacity of a dyestuff is the type of light to which a color is exposed. We have already seen that there are so-called rapid methods for determining the light fastness of a dye shade to the action of certain types of artificial lights of great power. It has been pointed out, however, that the rate of fading of a dyestuff is affected by the type of light to

which a color is exposed. Indeed this is such an important matter that a color may "go" when exposed to the action of direct sunlight and in a few cases it has been known to return to some extent when re-exposed to the action of diffused daylight. The case of indigo dyed on wool is of interest in this respect. When exposed to the action of the direct rays of the sun we find that, with all its renowned fastness, it suffers a little under this influence, but if such a faded indigo dyeing is kept in the dark for a time it is found that the depth of the shade has returned to its original state.

Now this peculiarity of the fading of some colors rather than being an added difficulty is of use in helping us to explain the phenomena. It does appear, however, as if we have still some way to go before we have a satisfactory method at hand for the rapid determination of the fastness of a color to sunlight, useful and ingenious as some of the apparatus on the market may be. We shall, however, have to reproduce still more accurately the exact effect of direct sunlight before we have attained an entirely suitable substitute. The importance of this point was stressed by Gebhard some years ago in the *Farber Zeitung*, when he put forward the idea that in order to reproduce the action of sunlight we should have to have two types of light, one of which had rays of short wave length and the other long-waved rays. He added that there was no source of artificial light, the waves of which were sufficiently intense in the visible and invisible parts of the spectrum.

Changing Color.

W. Harrison, in the *Journal of the Society of Dyers and Colorists*, in 1911, objected that this method would not be satisfactory, in that different lights had a varied effect on dyed shades. He has shown that the vat dyestuff Flavanthrene was very rapidly turned green when exposed to the action of a very strong ultra-violet light and that it returned to its well-known yellow color when taken away from the influence of this light. Where the intensity of the light was less there was no effect on the dyed shade, quite apart from the length of time of exposure. In 1912 in the same journal (p. 225) this investigator

gave a further interesting example in the cases of the four dyestuffs, Chrysophenine, Cotton Yellow, Thioflavine and Auramine, which showed under exposure to the light of a small lamp a similar degree of fastness to each other, while with a light of high intensity Thioflavine and Auramine gave results of superior fastness to those shown by the other two colors, Chrysophenine and Cotton Yellow. As is well known, these dyestuffs have a varying degree of fastness and the results obtained above are exactly the opposite to what are given under the usual exposure to sunlight.

Harrison confirmed the results of Walther and Scheurer, who, at different times a few years before Harrison's researches, had shown that the results given by exposure of shades under the mercury light were by no means the same as those obtained with sunlight.

In a recent issue of the *Journal of the Textile Institute*, P. W. Cunliffe suggests that the radiation of the carbon arc, which gives a continuous spectrum, may possibly be capable of modification to resemble sunlight, but that on the contrary the radiation of the mercury arc gives a line spectrum, and many of the wave-lengths present in sunlight are absent. It is those rays of light which are absorbed by the dyestuff which are the cause of the reactions taking place when the color fades. If, therefore, those rays are not present in the light to which a color is exposed the color will not fade. The first cause must be present whether the later chemical actions such as oxidation, reduction, etc., take place or not.

Light-Rays and Intra-Molecular Vibration.

As we proceed with the matter it will be seen that light itself is not the cause of fading, but the light rays may set up intra-molecular vibration in the dyestuff particles, which (according to K. Gebhard) may produce the loosening of certain valencies with a condition of greater re-activity. It is well known that light can produce an intra-molecular change in the color-molecule, as is seen in the change from ortho-nitro-benzaldehyde into ortho-nitroso-benzoic acid. This theory may explain certain reactions taking place in the fading of some colors. The case of Malachite Green

has been instanced, and this, in solution, may be decolorized by exposure to the rays of an arc light and the color may be re-obtained by exposing again to sunlight.

Absorption of Light-Rays.

In the *Farber Zeitung* in 1917, Marschall stated that whenever a dyestuff is affected by light the cause is to be found in the absorption of a part of the light-rays by the dye, resulting in an oscillation of the molecule. If a dyestuff is to be fast to light it must have stability in its molecule, and its molecule must be capable of absorbing light-waves of large amplitude and of being set in strong vibration by this absorption, but without destructive action. Where there are dyestuffs possessing large molecules of simple symmetrical structure, without side-chains of a reactive nature, these necessary conditions are satisfied.

In the case of such colors dyed on to the fibre the size of the molecule is by that dyeing or chemical interaction increased in size, and the fastness of the color is thereby increased. There is generally admitted to be a difference in the phenomenon taking place when wool is dyed as compared with that seen when cotton materials are dyed. The former is more generally accepted as a chemical reaction while the dyeing of cotton is commonly held to be of a physical nature and in the deductions of Marschall this is evidently borne in mind, and the inter-action between the dyestuff molecule and the fibre is held to give naturally an increase in the size of the molecule with consequent greater fastness, but the dyeing of cotton being of a physical character, the size of the dyestuff molecule is not increased in dimension and there is no stabilizing action, and other methods have to be adopted for making the color fast by suitable after-treatment. There may be other theories to take into account regarding this point, although this view of the cause of increased fastness by after-treatment is a most interesting one.

An Electron Theory.

It may be of interest here to refer again to Harrison's paper in the *Journal of the Society of Dyers and Colorists* in 1912, where he put forward his electron theory and stated that "Since all those rays which are absorbed can produce chemical re-

(Continued on Page 38)

Development of the Spinning Frame

(Continued from last Week.)

In Textile Texts, published by the Draper Corporation, it is stated that the first separator was invented by Haythorn in 1868 (figure 28). It would be more correct to say that the first patent on a flat separator issued in the United States was granted to him. His separator was mounted on pivots in such a manner as to be swung out of the way for doffing.

Although the circular separator is ideal, as it corresponds to the form of the balloon, the flat separator has come into general use because of its convenience in doffing.

Thread Guides.

The first complete spinning frame described in a patent—that of Arkwright, in 1769—showed an attempt at a thread board or thread guide. Arkwright simply used a wire locat-

By Robert E. Naumburg, Head of Research Dept. Saco-Lowell Shops.
Paper Presented Before American Society of Chemical Engineers.
Cuts Loaned Through Courtesy Mechanical Engineer.

thread board (figure 29) consisted of a hinged wooden block and an eye to guide the thread. The hinge, of course, allowed the thread board to be tipped back for doffing. A lip or hump was formed in the wood to keep the lint away from the board.

The original thread boards were made of wood, and it is interesting to note, that although many have been made of cast iron or pressed steel for a number of years, the word "board" still persists.

In 1890 a patent was granted to Charles Burt and Albert D. Davol, of Taunton, Mas., on a thread board (figure 30), having a slot allowing adjustment sideways, and a mov-

Although various systems of self-weighted top rolls have been attempted, the pressure on the top front rolls of a spinning frame is still obtained by means of weights and levers.

Clearers and Scavenger Rolls.

The use of clearers seems so simple that they were probably adopted in some form long ago. However, they are not shown in the early patents, and in 1868 a patent was granted to Daniel Crowley, of Philadelphia, on clearers for drawing rollers (Figure 33). It contains the following simple claim which would indicate that there were not many patents on this subject in the Patent Office:

Spindles.

We may classify spindles in two main divisions: the two rail type, in which spindles are supported by two rails, and the one-rail type, in which spindles are supported by one rail only.

Referring once more to the illustration of the spinning wheel, (Figure 2), we find the spindle supported at both ends. This makes it awkward to remove the flier and spool.

Arkwright's frame, in Figure 3, used a cantilever construction, supporting the spindle only from below but with the two rails quite a distance apart. This construction made it easier to remove the flier and spool. However, the warping of the frame, which was then wood, brought the spindles out of line. More satisfactory results were obtained when a spindle was built as

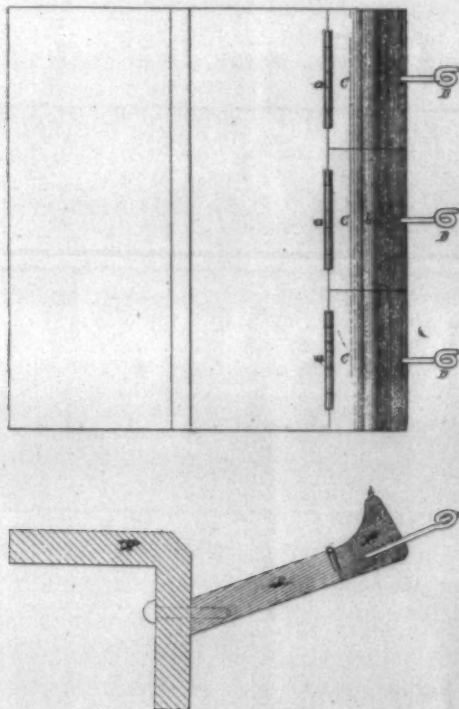


Fig. 29—Thread Board Invented by Pearl, 1871.

ed above his spindles and running parallel to the spindle rail. Although this was crude, it served its purpose. However, it was not sufficiently accurate for later developments. With increased speeds it was found necessary to restrain the ballooning and hold the yarn in line with the axis of the spindle.

Referring once to the cap spinning frame of Charles Danforth of 1830 (figure 14), we find individual adjustable boards with holes in them for the yarn to pass through. These were the first adjustable thread guides of which we have any record.

Patents on thread boards were granted in England as far back as 1841. In 1871 a patent was granted to Oliver Pearl of Lawrence, Mass., on an "Improvement in Guide Boards for Spinning Machines." He was probably better known on account of a spindle which he developed and which bears his name. This

able thread eye held by a set screw which allowed adjustment in and out. This thread board was apparently made of cast iron. The purpose of the adjustment, of course, was to allow the thread guide to be placed in exact alignment with the axis of the spindle.

In 1901, L. T. Houghton, of Worcester, Mass., patented the first pressed-steel thread board (Figure 34). It had its back curled up to form a hinge and its sides bent down to act as stops.

Weighing Devices

In Arkwright's patent (Figure 3) the top rolls are held down by weights acting through a series of ropes and pulleys.

In 1859 a patent was granted to Noah E. Hale, of Nashua, N. H., which showed (Figure 32) a system of levers for applying weight to the top rolls, and also a method of relieving the weight when desired.

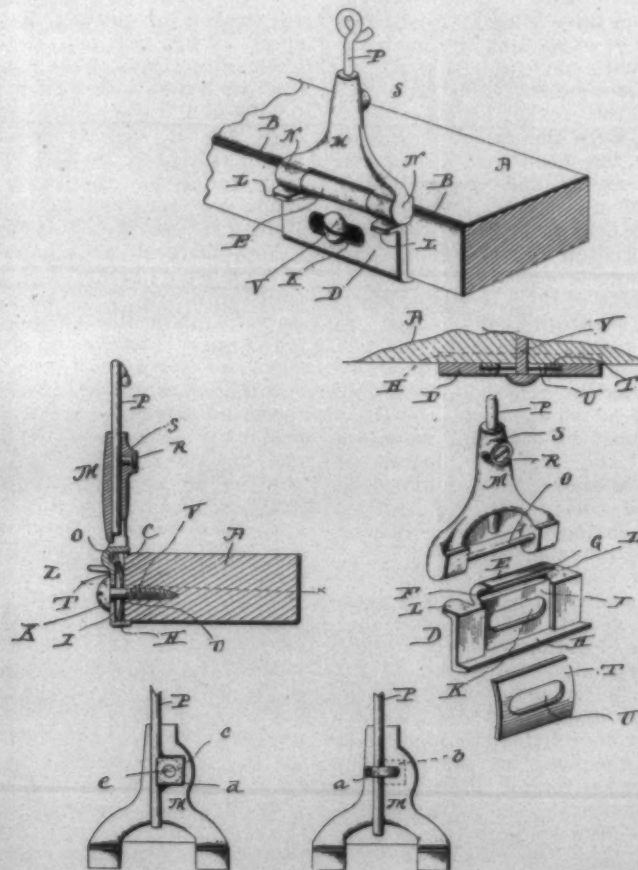


Fig. 30—Adjustable Thread Board Invented by Burt and Davol, 1890.

"What I claim as my invention and desire to secure by Letters Patent is—The combination of clearers BB, constructed as described, with the rollers AA, substantially as and for the purpose herein specified".

The scavenger roll, d, located under the bottom front roll of the spinning, is shown in the patent to John C. Dodge, of Dodgeville, Mass., granted in 1850 (Figure 34). Unlike our present scavenger roll, which is driven by frictional contact with the bottom front roll, this patent shows a positively driven scavenger roll. The purpose and function, however, are the same.

a complete unit and supported by one rail only.

People connected with the textile industry often speak of the "Rabbeth spindle" when referring to any modern spindle. Rabbeth is often given credit for having invented any or all of the following:

1. The spindle supported by one rail instead of two.
2. An oil bath in which the spindle blade runs.
3. The sleeve whirl which extends down over the base and brings the band pull in line with the upper bearing.
4. The yielding bolster, allowing

lateral movement and providing both the side support and step support for the spindle blade.

From a study of the patents it will be seen that Rabbeth was not the first inventor of the first three items, and was responsible for only an improvement in the fourth.

Thus in 1857 a British patent was granted to David Cheetham, a machinist of Rochdale, England, on a spindle supported by, or rather

built into, one rail (Figure 35). Cheetham did not use a loose bolster but a stationary bushing as an upper bearing and an adjustable screw for a bottom or step bearing. The latter is similar to the arrangement used on Draper spindles of the present day.

In 1860 a United States patent was granted to Erastus N. Steere, of Providence. Unlike Cheetham's spindle, it was removable and was

held in the spindle rail by means of a set screw. This was a completely self-contained spindle supported by one rail only. Steere was mainly interested in a method of oiling his spindle, which was made to run in an oil bath (Figure 36). His spindle had a reservoir, and an opening to pour in the oil and another opening to allow the air to escape. There was also a cover over the oil hole. The spindle blade

was supported at the top by a fixed bushing and at the bottom by a fixed step. The step was made high enough in the center to allow dirt and sediment to collect below it. The latter feature has been claimed by a number of later inventors.

1868 a patent was granted to John E. Atwood, of Mansfield, Mass. This patent (Figure 37), very clearly shows the sleeve whirl which brought the pull of the driving band

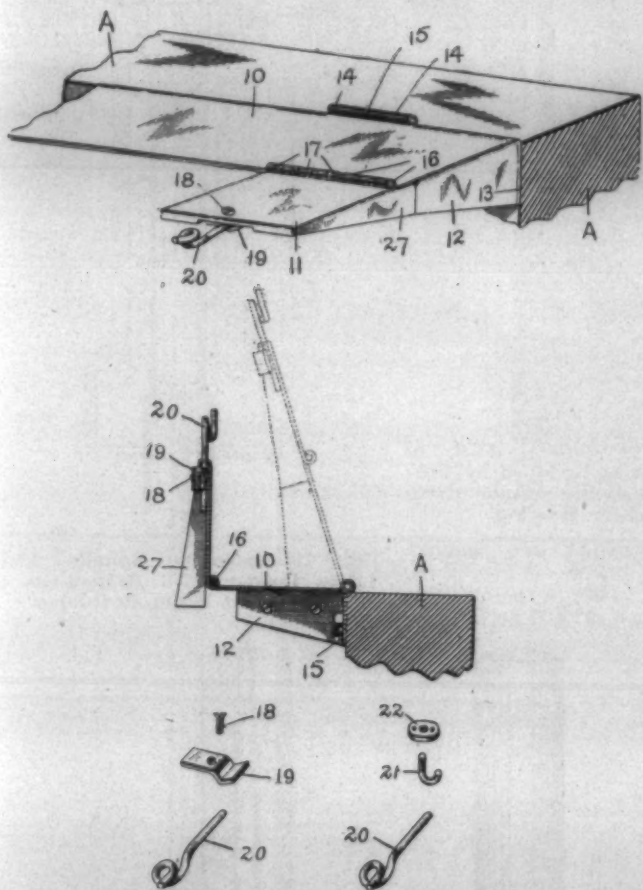


Fig. 31—Houghton's Pressed-Steel Thread Board, 1901.

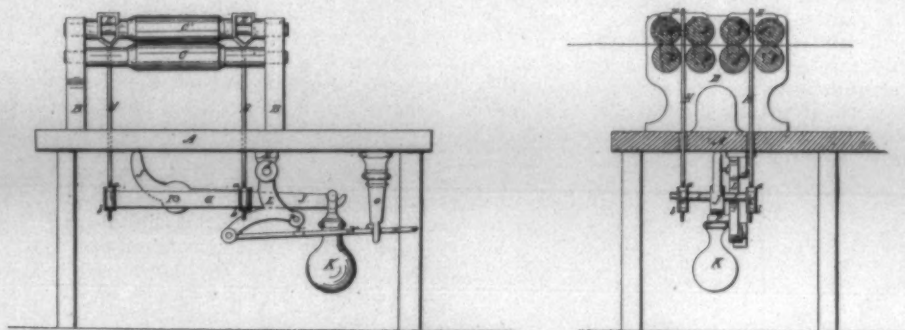


Fig. 32—Hale's Weighting Device, 1859

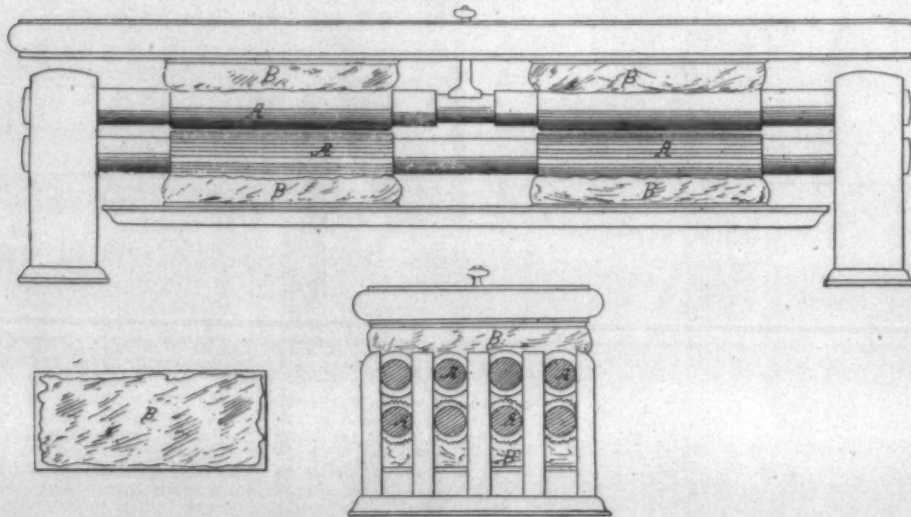


Fig. 33—Crowley's Clearers for Drawing Rollers, 1868.

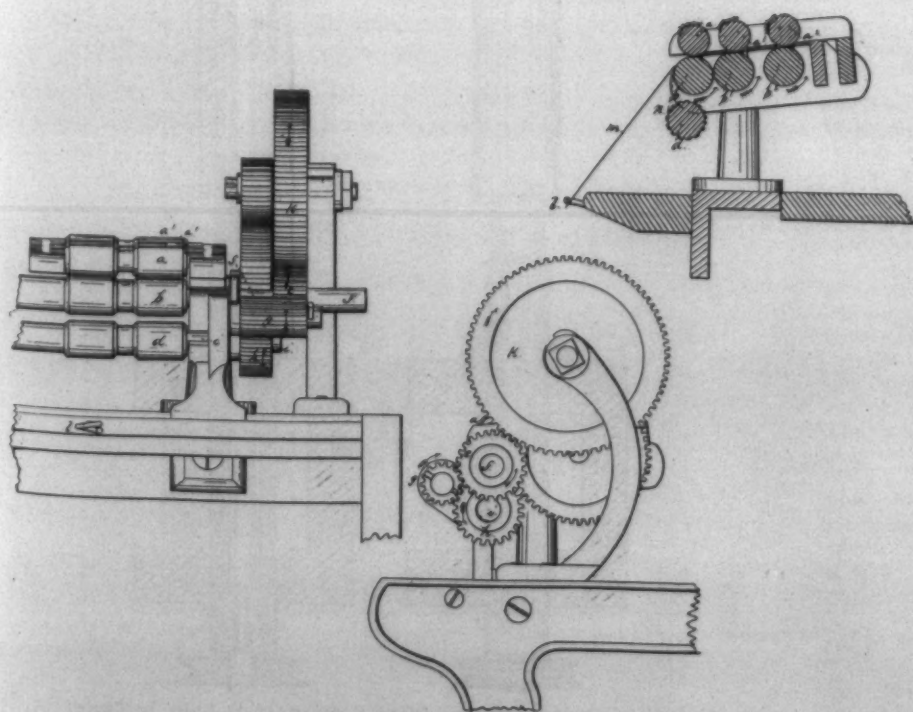


Fig. 34—Dodge's Scavenger Roll, 1850

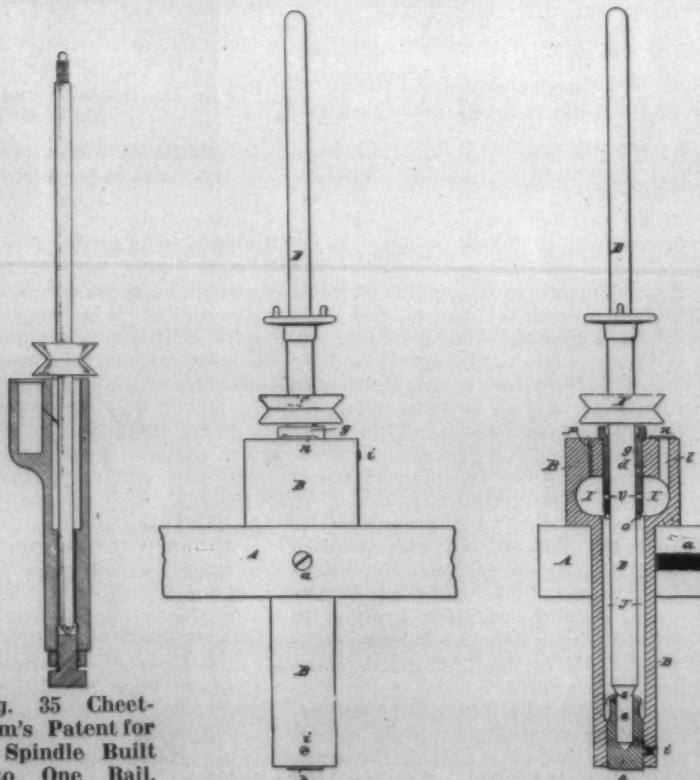


Fig. 35 Cheetham's Patent for a Spindle Built into One Rail, 1857.

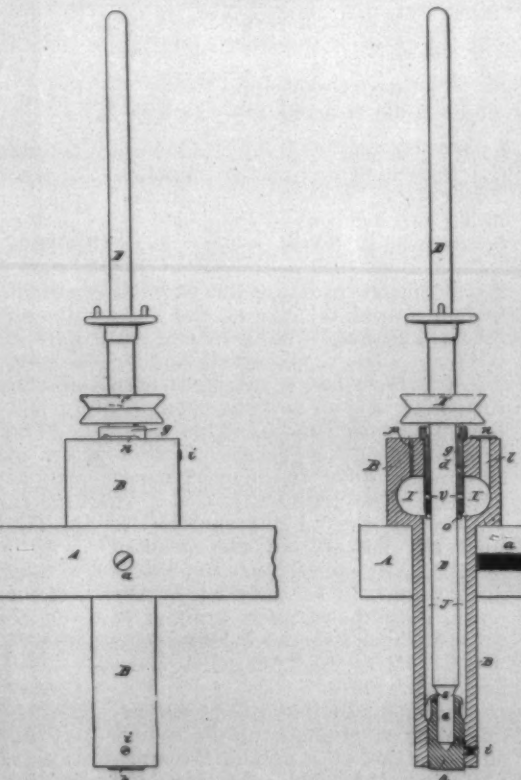


Fig. 36—Steere's Self-Containing Spindle, 1860

in line with the upper spindle bearing. Atwood was not only the inventor of the sleeve whirl, but he was also the first to use an oil spout on a self-contained spindle.

The patent granted to Francis J. Rabbeth, of Ilion, N. Y., and John E. Atwood, dated April 2, 1867, ten years after the patent to Cheetham and seven years after the patent to Steere, is for a "self-oiling spindle." The description and claims are limited to the oiling features. As shown in Figure 38, there is an oil reservoir, and also a channel leading into the interior of the base. There is no question that the spindle ran in a bath of oil, as did the Cheetham and Steere spindles. There is no question that the spindle is sup-

ported on one rail only, as were the Cheetham and Steere spindles. This feature is not claimed, in fact it is not even mentioned, in the Rabbeth and Atwood patent.

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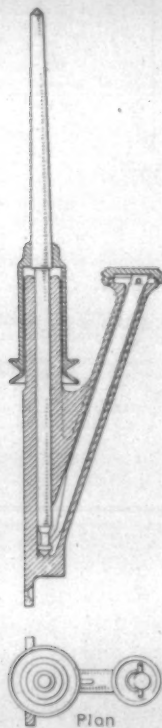


Fig. 37
Atwood's Sleeve Whirl, Bringing Pull of the Driving Band in Line with Upper Spindle Bearing, 1866.

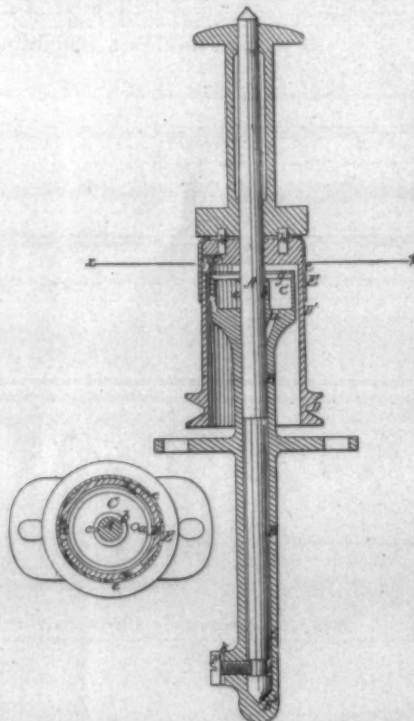


Fig. 38—Rabbeth and Atwood's Spindle, 1867

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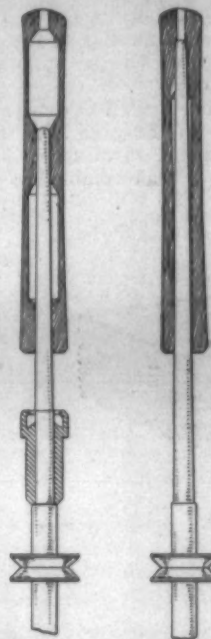


Fig. 39—Pearl Spindle, 1870, in which Power was Reduced by Cutting Off a Part of the Spindle above the Bolster Bearing.

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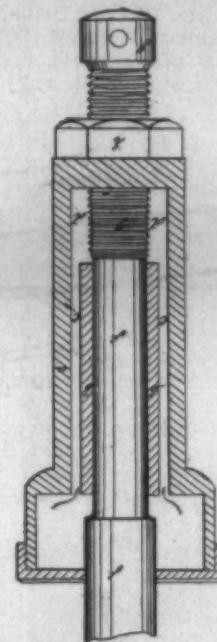


Fig. 41—Tompkins Spindle, 1867; Loose Bolster with Projections to Prevent it From Revolving.

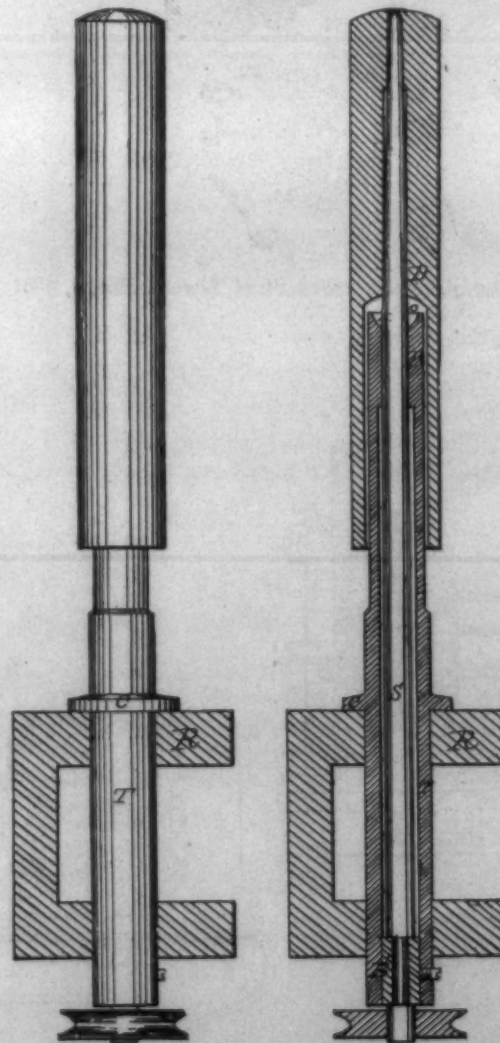


Fig. 40—Sawyer Spindle, 1871; Bottom of Bobbin is Chambered Out and Bolster is Carried Up Inside.



AMERICAN TEXTILE CO.
Atco, Georgia
Drills and Sheetings

E. L. McClain,
Chairman Executive Com.
J. A. Miller, President

"You Were Very Conservative in Your Claims As to What ParkSpray Humidifiers Accomplish"

Weight of finisher
picker lap—decreased

Twist gears—two
teeth less

Front Rolls Speeded
up 5 to 6 turns

Spinner can run one
more side

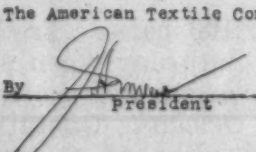
Looms Speeded up 6
picks. Production
increased about 5%

When you made us a proposition in early 1921 to equip our mill with your system of high-duty humidifier, we could not help but feel that some of the claims you made for the system were rather greater than we could hope to realize. However, after using this system for better than two years it is our frank belief that you were very conservative in your claims as to what this system would accomplish for us. We have endeavored to operate the system in accordance with your directions and have been very much pleased with the operation and results.

Another favorable feature of your service which we think mills generally appreciate, is the system of inspections which you make. These inspections have been very helpful to us in that you have assisted us materially in the proper operation of the system thereby giving us maximum beneficial results.

Very truly,

The American Textile Company.

By 
President

M:C



Parks-Cramer Company
Engineers & Contractors
Industrial Piping and Air Conditioning
Fitchburg Boston Charlotte



Right Again

And Now Comes Cotton

Chicago has risen to the indisputable position of Farm Capital of the Nation.

It is the grain hut of the world. Four hundred million bushels of grain flow into this center annually.

For years it has been the central livestock and provision market of America.

And now comes Cotton.

Forging a new link between the North and the South, the Chicago Board of Trade on December 1 launched the third great cotton exchange of the United States.

The Chicago Futures contract is based on Texas or Western Cotton. Houston and Galveston are the joint point of delivery. This is the greatest cotton exporting point in the world where ample warehouse facilities exist.

Chicago's market, functioning under the U. S. Cotton Futures Act, will broaden the interest in that commodity, thus creating a more liquid market to the advantage of farmers and spot cotton merchants.

Chicago quotations, resting on values at Houston and Galveston, represent world values for cotton.

A study of the Chicago Cotton contract will clearly indicate the advantages offered.

Minimum contract is 100 bales. Trading hours 9 to 2, except on Saturday when market closes at 11. Commissions are the same as New York and New Orleans. Quotations are in cents and hundredths of a cent a pound. Fluctuations limited to 200 points in one day. Total warehouse capacity exceeds 1,500,000 bales. Large stocks always on hand at Houston-Galveston basin serve as protection for both buyer and seller. Handling charges compare favorably with other American spot centers.

**THE CHICAGO
BOARD OF TRADE**

Analysis of Cotton Situation

THE May position in New York represents a characteristic picture of the cotton futures situation," states Bernard Gelles, manager of the cotton department of W. R. Grace & Co. "At the present time, May futures are quoted at 23.85, which equals about 22½ in interior Texas and 22¼ in Georgia; yet in neither States can middling ⅝-inch be purchased at these figures. In fact, nowhere in the South is spot cotton procurable at such prices. Consequently, it would seem at first glance that May futures represent the cheapest American cotton today. Careful analysis will prove, however, that it does only on paper but not commercially. The New York stock consists of 173,000 bales, of which 163,000 bales have been inspected and classed. The issuance of about 120,000 notices is significant and deserves special attention. A careful study of the situation will disclose that the New York stock consists mostly of soft and wasty cotton, which, while classed and re-classed by Government experts as ⅝-inch staple, nevertheless cannot be termed as such from a spinner's point of view, because of its character and weak body; length and spinning value are two distinct matters, and cannot be interchanged. In addition to this there is no high density compress in New York which would enable exporters to press cotton into high density and patch it for export. The take-up charges, as well as the f.o.b. ship charges are still high compared to those prevailing in Galveston; and so the old problem of Southern delivery on New York contract is again suggesting itself, particularly at this time when spot cotton is commanding such high premiums in the South and 120 odd thousand bales are going begging in New York.

Basis.

"A most startling contrast to the comparatively cheap futures is the basis for spots of medium length. Last September witnessed on the Havre Bourse offers of Texas shippers for strict middling, Texas, 28-29 m-m staple at anywhere from 280 to 310 points on. Havre merchants were not keen on buying, even at these figures; today the very same quality is selling at 480 to 500 points on, or at an advance of 200 points. The same situation applies to domestic length. 1 1-16 staple which early in the season sold at 150 to 175 points on, is selling today at 325 to 375 on and even at these premiums it is extremely difficult to find correct 1 1-16. This substantial advance in the basis is to be found in the fact that many shippers have sold the basis short for shipments beginning in August last year and May-June this year, and as a consequence had to be on the defensive throughout the entire season and pay the asked price in order to fill their commitments. Certainly this has been the highest basis-season for a crop which yielded 13,631,000 bales; nevertheless, it may quite easily happen that the coming season will show a simi-

lar situation, particularly if merchants and shippers will pursue the same policy.

Long Staples.

"The long staple situation is quite acute; stocks are small and desirable; 1¼ inch to 1 5-16 inch cotton is very scarce. Relief can only be expected from the new crop which will not be available before September or October and therefore it is quite likely that the premium for desirable 1 3-16 inch and particularly 1¼ inch cotton will continue to advance especially for spots or nearby deliveries.

Egyptians.

"The fluctuation in the Egyptian future market in Liverpool has been phenomenal. Erratic variations of 2 cents per pound were the order of the day during the past three weeks. Speculative liquidations are the cause for these extraordinary fluctuations and according to our advices from Alexandria, all indications point that Sakellaridis will continue to maintain its substantial premium, particularly because new crop cotton will not be available before five months. The present quotations for Saks of new crop cotton for September shipment are still very much above spinners' ideas and very little business has been actually transacted of late.

Mitafifi.

"Mitafifi will probably be used as a substitute for Saks in no small degree, particularly as it is so much cheaper than Sakellaridis and because of Peruvian new crop cotton being available for May-June shipment, whereas Saks cannot be offered before late September shipment. Again, Liverpool "Good," our type Bell, is quoted at 45 cents per pound, for May-June shipment, whereas Sakellaridis commands 60 cents per pound for a similar quality and for September shipment. Of course, Sakellaridis variety is of a slightly better staple, nevertheless, the difference in price is attracting the attention of many spinners, particularly in Liverpool.

Tanguis.

"In view of the tightness in the long staple situation in Mississippi and Carolina, Tanguis is coming to the forefront. Quite a large business has been done lately with Lancashire, and also some of our domestic mills are getting interested in this variety. New crop shipments of Tanguis can be bought at 1 cent to 2 cents under American staples of the same grade and length for May-June-July shipment. Considering that Mississippi and Carolina staples will not be available before September-October shipment, it is obvious that Tanguis will be used in large quantities to fill the gap, as a result of the scarcity of long staple cotton.

Full Rough.

"I have just recently returned from Peru and can say authoritatively that there will be very little Full Rough cotton grown during the coming season. Large haciendas have practically discontinued the

(Continued on Page 41)

FACTORY MUTUAL INSURANCE

It's more than Insurance

IF thoughts of fire hazard are keeping your mind from your business, take this opportunity to learn more about New England Factory Mutual Insurance. It is more than insurance; it is insurance plus practical immunity from fire.

Over seven billion dollars' worth of New England Factory Mutual Insurance is proof that the majority of factory owners know the value of immunity from fire. You need the benefit of the fire prevention experience accumulated by this association in 89 years of practical engineering research.

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Weaving Viscose Yarns

IN weaving viscose the warp, wherever possible, should be mounted in the loom so that the threads form a direct line from the warp beam through the healds without passing over the back rest. If, however, it is found necessary to use a back rest, it should be a circular beam which will rotate freely with the movement of the warp as it passes over it, and thus avoid friction. For plain weaves the warp line, when the shed is crossing, should be horizontal from the front breast beam to the warp beam. The warp line for satins or similar weaves when woven face down should be slightly higher at the back in order to throw the main weaving strain on the bottom shed, which forms the bulk of the warp, and thus ease the strain on the top shed when the threads in the top shed are lifting.

When beam sized viscose is used in conjunction with another fibre in the warp, the viscose portion should be lightly tensioned; but the warp yarn which is weaving with it should be well tensioned, because, as previously explained, the stretch given to the viscose thread during beam sizing recovers itself when passing through the dyeing process. Consequently, unless the viscose

warp is weaving slack and the warp yarn which is weaving with it tight, the contraction which takes place in the dyeing will cause the viscose warp threads to have a strained appearance in the cloth. In fancy stripes, where only a few viscose threads are used in the warp, and where a raised or lofted effect is required in the weave or figure, it is sometimes advisable to use hank sized yarn in the stripes, owing to the fact that with hank sized viscose little or no contraction takes place in the dyeing process.

Wire healds, knitted top and bottom, are found to be suitable for weaving viscose warps. Unknitted wire healds, the wires of which slide freely in the heald frame, are more suitable for stripes and fancy effects, because when one design is completed and another required the draft or pattern can be readily changed without the necessity of having to reknit the healds. Wire healds should be inspected before using to ensure that they are free from roughness, solder, or other projections that would fray or damage the warp threads. The heald eyes should be no larger than is necessary, and shaped so that they offer as little friction as possi-

ble during the "crossing" of the warp threads. In striped warps, where spring undermotions are used, it is not advisable to make the springs too strong on those healds where the viscose is lifting, but only of sufficient strength to make a clear open shed. If the springs are too strong the wire healds are liable to "lock" or become too rigid and thus cause friction and breakages in the warp.

In weaving delicate viscose warps it is advisable to use a "false back heald" in place of the usual "lease rods." A "false back heald" is a mock leish heald without eyes, which performs the same function as "lease rods"—i. e., divides the warp threads and enables the weaver to retain "the cross" and keep the warp threads in their proper order. The advantage of this method of dividing the warp is that the shed opens direct from the warp beam, thus obtaining equality of tension on the upper and lower sheds. With "lease rods" the sheds are not equal, the upper shed opening to the first "lease rod," and the lower shed to the "lease rod" behind it, or vice versa. With "lease rods" some friction is caused as the viscose warp threads pass over and

under them, with a "false back heald" there is practically no friction.

Reeds should be clean and free from rust. The ordinary strong wire reed with square edged dents has been found unsuitable for weaving viscose, the reason being that the slay moves backwards and forwards during weaving and the inward pull of the cloth causes the warp threads along the sides to bear on the inside edges of the reed wires. This naturally causes chafing to be set up. In order to reduce this to a minimum it has been found highly advantageous to use fine flexible wire, and to bevel the edges of each dent wire. This type of reed is not only much "kinder" in its action on the delicate viscose warp threads than is the case when strong square edged dent wires are used, but knots and other projections on the warp threads will more readily pass through the reed.

For the usual dress goods loom, where comparatively small or medium sized shuttles are used, reeds for weaving viscose are usually $3\frac{1}{4}$ inches deep between the barks; in heavier looms where larger shuttles are used this depth would be pro-

(Continued on Page 38)

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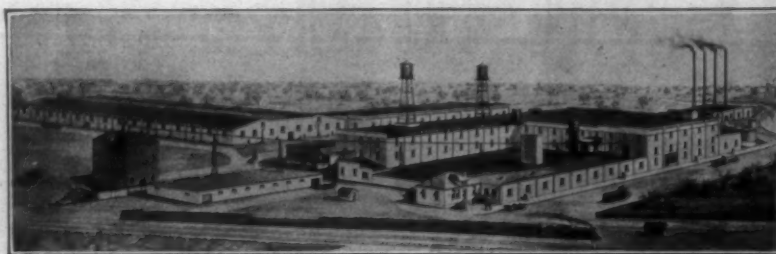
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It boils thin, penetrates the warps and carries the weight into cloth. It means good running work, satisfied help and one hundred per cent production.

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HOUGHTON

ABOUT NUTS

Just comment on the various sort

by Chas. E. Carpenter,

Near Editor

WHENSOEVER a chap drops out of our organization and goes with a competitor, he is termed in our organization, "A HOUGHTON NUT."

Meaning that he is merely a nut which has dropped off the HOUGHTON automobile, and is now functioning on another car.

Whensoever some one introduces a new invention to the HOUGHTON RESEARCH STAFF, he is called, "A NUT," because as a rule, all inventors are nutty on the subject of their own inventions. But that is no discredit to the inventor. Some folks are nutty on their wives and some on other fellow's wives—you never can tell. Some of us are nutty on our children and I am known to be nutty on my grandchildren. Some folks are nutty on religion and others on prohibition, and so it goes. We are all nuts, more or less.

If you will take the trouble to examine the files of the Patent Office, you will discover that there have been more nutty patents taken out than good ones, by fifty to one.

Therefore, no nutty invention is ever permitted to get by as a Houghton Product. We know the natural tendency of the inventor to be prejudiced in favor of his own invention and we do not permit the Company's customers, or the Company's reputation, to become the victim of such prejudice.

We will spend thousands of dollars for

research to develop a new product and then thousands more to prove that it is no good and only after the product can make a proper defense is it permitted to be classed as a HOUGHTON PRODUCT, and passed along to our customers.

It took folks a long time to appreciate the quality of VIM LEATHER BELTING. That was a baby for which I was personally responsible, although I did not invent VIM LEATHER. VIM LEATHER was invented by the most successful leather manufacturer of all time, the late Hon. Robert H. Foerderer, the inventor of VICI KID and the revolutionizer of the manufacture of shoe leather. Unfortunately Mr. Foerderer died before the success of VIM LEATHER BELTING was fully developed. My faith in VIM LEATHER BELTING was based on my knowledge of Mr. Foerderer's ability as a leather manufacturer.

VIM LEATHER BELTING is without question the best belting made. It has now come to a point where no one with any reputation, disputes that fact. Those who formerly denied the merits of VIM LEATHER BELTING are now confining themselves to the statement that it is not worth the price. If you will order one trial VIM LEATHER BELT and permit the belt itself to tell its own story of real worth, in the mute language of actual service, in your own plant, under your own supervision, this question of worth will be settled to your own satisfaction.

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The efficient wearing quality of Bondex Middlegrip Cone Belting makes it the most economical cone belting obtainable.

The **outer** ply is made from the famous Bondex close fibred leather which is exceptionally fine in texture. This special leather reinforces the belt, takes care of the shifter and adds greater strength.

The **under** ply, or narrower leather strip, which actually does the driving, is made from Bondural leather. Bondural leather has almost miraculous gripping powers which insures a long life to the belt, perfect cone contact and reduces slippage and the losses from uneven coning.

Both of the leathers are products from the same tannery as BONDARON, "the original textile leather with the hair on," and they make an ideal combination for efficient cone belts.

It will pay you to equip your machines with Bondex Middlegrip Cone Belts, made endless or in rolls.

Send for Booklet No. 101

Manufactured Exclusively By

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"Twist"

OF the seven processes in cotton spinning, viz., cleaning, carding, doubling, drawing, combing, twisting and winding, the principles of drawing and twisting are the least understood of all.

To the majority of men engaged in the industry, it is sufficient to know that these processes have certain specific effects; the cause is taken for granted. This attitude is regrettable because even a modicum of insight into theory often draws attention to some unsuspected detail which may be adopted or discarded with improved spinning results. The majority of our text books treat these subjects in a more or less superficial manner, although mechanical movements and their principles are admirably and exhaustively explained. On the other hand, Continental authors devote much patient thought to theory, but many of their works are of abstruse composition. It is questionable whether 1 per cent of those engaged in the cotton trade in this country are acquainted with the integral differential calculus, so what is the use of books of this description to the rest? In many cases the principle of a process or a mechanical movement can be explained by simple experiments in conjunction with elementary geometry, and on these lines it is proposed to explain the characteristics of "twist."

As a preliminary it is necessary to ascertain the number of fibres contained in a yarn viewed in cross section, and for this purpose we will propound a formula applicable to all counts in an approximate degree sufficient for our purpose. Elsewhere it has been shown that a 4-hank roving is about 1.37 inch in diameter. The number of fibres it contains in section is now found by dividing the sectional area of the rove.

To determine the approximate number in any counts, the formula will be, when

A=Hank roving, or counts yarn,
B=Fibres contained in sectional area,

$$\text{then } B = \frac{1160 \times 4}{A} = \frac{4640}{A}$$

Incidentally it follows that No. 4640's counts, if possible to spin, would be composed of single fibres just joined together by their extremities. This fact refutes the statement that "No. 100000's has been spun experimentally"; for, on the basis of cotton fibres, it would contain

$\frac{4640}{10000}$, or less than half the

thickness of a single fibre in its composition, which is an obvious absurdity.

We can now proceed with our investigation, but as "twist" only exercises a moderate influence in the preparatory process and is the all-important factor in the spinning department, we will therefore confine our remarks to a yarn—for example, 32's twist from American cotton.

By applying the above formula,

we find this yarn comprises $\frac{4640}{32} =$

145 fibres. Research has shown that the breaking strain of an American fibre is about 90 grains, consequently, on the supposition that the extremities of the fibres cohere with the same disruptive resistance (viz., 90 grains), making it practically a yarn composed of 145 endless fibres, the theoretical breaking strain would be (80 threads to the lea):
 $80 \text{ thds.} \times 145 \text{ fibres} \times 90 \text{ grs.}$

7000

We know, however, that a good 32's American twist yarn seldom exceeds 54 pounds, thus showing that only 36 per cent of the original strength of fibre is utilized. Why? Simply because it is not that all the individual fibres collapse under the strain at the breaking point, but that their cohesiveness, or degree of clinging tenacity, due to intertwining or "twist," is overcome, and they separate. It is true that some fibres may collapse, but the number cannot exceed

$\frac{145 \text{ fibres} \times 36\%}{100\%}$ or 52 in this particular yarn

Let us now examine the following properties, controlled by twist, which may be described as axioms in spinning.

(1) Increasing the turns per inch (in moderation) of a yarn renders it stronger.

The greater number of turns alters the angular incidence of the fibres around each other, thus offering more resistance to separation. This principle is illustrated by the following more or less analogous experiment. Fix, for example, three nails on a board in an upright position and in a straight line; then pass a short length of thread around them. Note resistance when the thread is drawn forward. If, now, the nails are increased to nine in the same space, and the thread guided alternately around each, it will be seen that the angle of the thread's path is more deflected, and that corresponding greater resistance is offered to its passage.

(2) Longer fibres in similar counts, and of the same turns per inch, produce a stronger yarn.

Longer fibres obviously receive more turns in their length. That is, if 1 inch long fibres interwine 20 times in their length, then $1\frac{1}{4}$ inch long fibres will contain 25 turns, thus offering a greater resistance to separation.

(3) With the same turns per inch a coarser counts of yarn is stronger than a finer number.

In this case the total frictional area is proportional to the number of fibres contained in the yarn. If 21 turns are inserted in 32's, which consists of 145 fibres, there are $145 \times 21 = 3,045$ total fibre convolutions per inch. When the yarn is changed to 30's, for example, the number of fibres is now increased to 155, from which the convolutions

(Continued on Page 36)

*Why was it—
when you got married only
engraved announcements would do?*



A manufacturer says:

FRASER & SIEDENBURG
267 FIFTH AVENUE
NEW YORK

December 4, 1924.

Kaumagraph Company,
350 West 31st Street,
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Gentlemen:

As distributors for the "Kalomia Blue Line" hosiery, manufactured by the Logan Hosiery Company of Philadelphia, Pa., we consider Kaumagraph transfers a sure means of identification which assures the consumer against substitutions of inferior hosiery. Your transfers have many good points, one of the best is the lasting quality.

We have always found your service exceptionally good.

Yours very truly,
Fraser & Siedenburg

Anything really important deserves the best. And it usually gets it!

But some manufacturers do not yet see the importance of the trademark on their goods—as if that isn't important! They use old-fashioned methods, even though the mark is smudged, streaked, illegible.

But not all firms are so thoughtless. Leading companies are now beautifully identifying their product with Kaumagraph Transfers.

The Kaumagraph method of marking has these decided advantages:

- it is easy and quick to apply
- the result is a neat, handsome mark
- the imprint lasts

Our new lithographic department enables manufacturers to get their labels, hang tickets, etc., and transfers all from the same source.

Write to us for full information about this Service and for sample markings of the transfer itself.

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KAUMAGRAPH CO.,
350-365 West 31st St.,
New York City.

Please send full information
about Kaumagraphs with samples.

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S. T. B. May

Report on Rayon Industry

AN investigation of the rayon industry has just been completed by Charles H. Hamlin, research fellow of the Association of Knit Underwear Manufacturers of America, which was conducted in conjunction with the United States Bureau of Standards, and the following preliminary report will be made by Mr. Hamlin at the annual convention of the association at the Hotel Traymore, Atlantic City, Friday and Saturday, May 15 and 16:

"Much has been written during the past year upon the composition, manufacture and methods of processing artificial silks. Although the basic methods of manufacture are readily understood by the chemist from a study of the literature on this subject, the mechanical difficulties as well as the chemical are so many and varied in the production of artificial silks on a commercial basis that the machinery and methods have not yet become standardized or commonly known as in other textile fields.

"However, the many artificial silks made today in this country and in Europe may be classified into four general groups according to the basic chemical process by which they are made. These are as follows in the order of which they have appeared, the method of man-

ufacture being briefly indicated below:

1. Nitro-cellulose or Chardonnet.
2. Cuprammonium.
3. Viscose.
4. Acetate.

Methods of Manufacture.

"A.—Nitro-cellulose or Chardonnet silk is made from raw cotton, usually in the form of cotton linters. This is first washed and thoroughly cleaned and is then transformed into nitro-cellulose by soaking in nitric and sulphuric acids for several hours. The nitro-cellulose or gun cotton is then dissolved in a mixture of alcohol and ether.

"After nitration, this solution is forced under high pressure through minute holes in small glass tubes called spinnerets. A number of these small filaments, hardened by the evaporation of the alcohol and ether, are then collected together depending on the denier desired and wound on bobbins. During this process the alcohol and ether are collected in the form of vapor and later distilled for use again.

"In this condition, the threads are highly inflammable due to parts of alcohol and ether still being present. In order to reduce this inflammability, it is necessary to denitrate the silk by use of an alkaline sulphide bath, after which the denitrated

threads are bleached and put in commercial form on spools, bobbins or skeins.

Other Procedures.

"B.—Cuprammonium silk is produced by dissolving pure cotton in an ammoniacal copper oxide solution, care being taken that the cotton used is thoroughly scoured and bleached. This solution is then forced through the apertures of the spinnerets and coagulated by running the threads through a bath of sulphuric acid and water or caustic soda solution. In this process most of the copper and ammonia are recovered. After several washings the threads are dried and wound on bobbins or other suitable form.

"C.—Viscose silk, which has the largest production of any of the varieties, due apparently to its lower cost of manufacture, is usually made with a wood pulp base. The wood pulp is delivered to the artificial silk mill in bleached sulphite sheets. These sheets are then soaked in caustic soda solution.

"After this treatment the excess moisture is pressed out, and after standing for some time the pulp is shredded into small pieces by special machines. This is then subjected to the action of carbon bisulphide, which changes the alkal cellulose into a thick gelatinous

mass. This viscose, as it is termed, is dissolved in water or a weak caustic soda solution.

Finishing Process.

"After filtration and after a period of maturing, it reaches the proper degree of fluidity and is then run into tanks from which it is forced at high pressure through the minute spinnerets. On emerging from the spinnerets, the filaments are coagulated in a solution of ammonium sulphite or dilute sulphuric acid and are twisted and gathered into centrifugal boxes.

"In this condition, it is necessary to neutralize any alkali remaining in the threads and to remove the sulphur compounds. This is accomplished by washing in an acid solution, washing in water and treatment by solution of sodium sulphide. The silk is then bleached and put into suitable form for marketing.

"D.—Acetate silk, in its finished form, is a cellulose ester and not regenerated cellulose as in the case of the three other types of artificial silk. Pure cotton usually forms the base of this product, although wood pulp can be used. The cellulose of the cotton or pulp is changed into acetyl-cellulose by the action of acetic acid in a manner similar to that by which cellulose is changed

(Continued on Page 35)

Wherein Lies the Popularity of SLIP-NOT

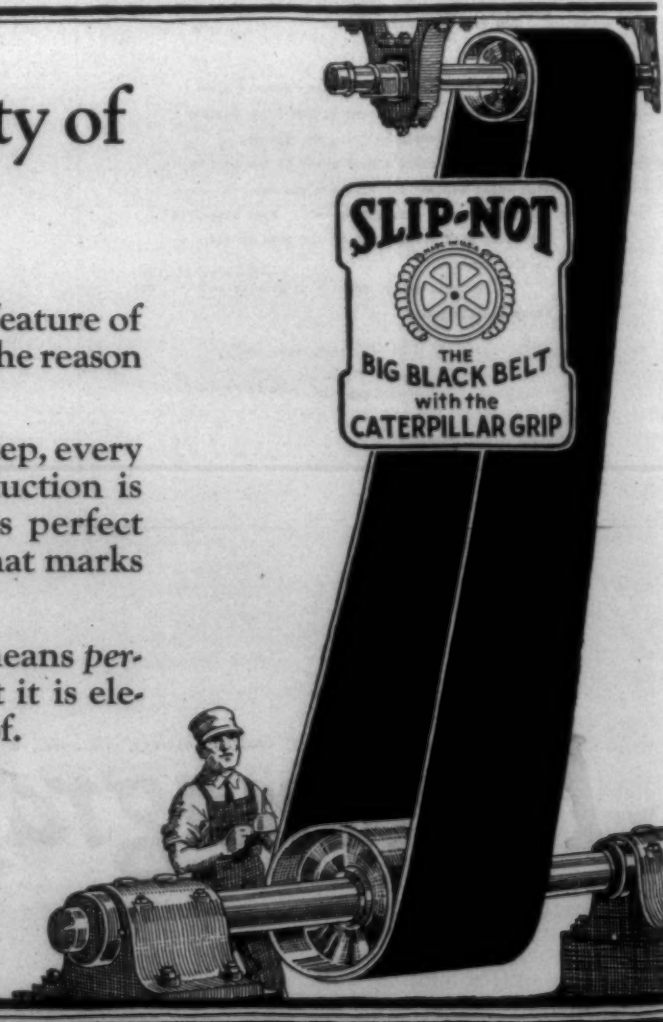
It would be impossible to place a finger on any one feature of SLIP-NOT Leather Belting and say, "There!—that is the reason for its popularity."

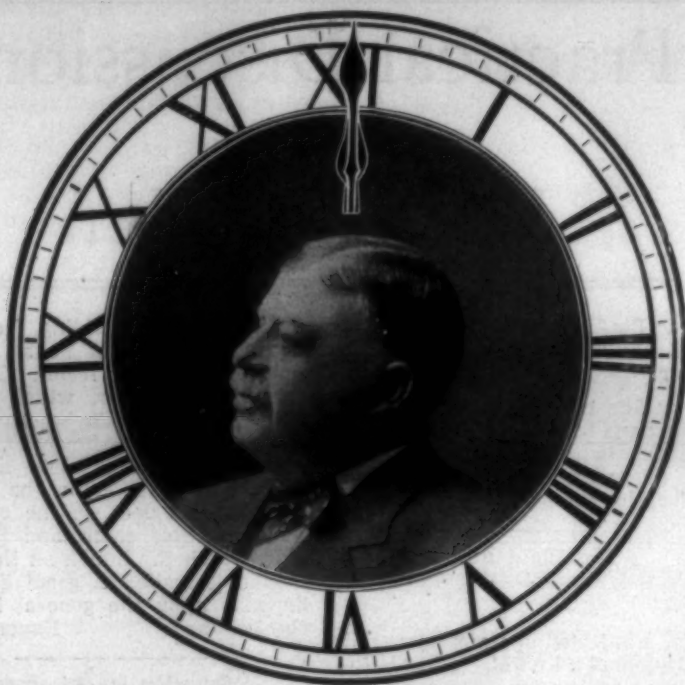
SLIP-NOT has no single dominating feature. Every step, every operation or every ingredient necessary in its production is considered of prime importance. The net result is perfect Leather Belting—a means for transmitting power that marks a new epoch in satisfactory belt performance.

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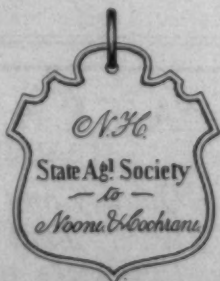
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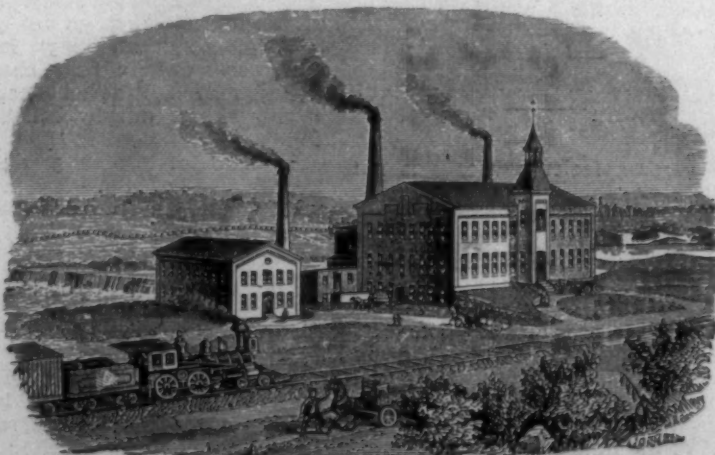
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Practical Discussions

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How Fine Can Cotton Be Spun?

Editor:

How fine can cotton be spun? I am anxious to get some information on this. Is there any limit as to how fine yarn can be made from good cotton? "Spinner."

The Night Run.

Editor:

We want to operate our mill overtime and all night. What is the best way to organize our supervisory force? To any experienced man who can place us right on this we shall feel gratefully obliged.
Night Work.

Weavers' Knots.

Editor:

I would like to learn the views of those who would be willing to answer my questions in these columns regarding the advantage of weavers' knots over the square knots, and the regular spooler's knots as tied by tying machines? What is the difference in size, etc.?

Captain A.

Life of Top Rolls.

Editor:

We have been reading the articles on your Practical Discussion Page with much interest. Please get as many of your best spinners as possible to give us their idea in regard to the following question:

How many leather top rolls should spinning room making 12s to 21s yarn use per 1,000 spindles in one year of 300 working days?

We would like for as many spinners as possible to answer this question, as the comparison will be interesting.
Tekel.

Answer to Feeler Waste.

Editor:

Regarding feeler waste, it is not always possible to state what the waste should be in another mill without knowing local conditions, and this refers to the kind of goods made, the organization of same, kind of cotton, the twist in the yarn, the speed of the loom, the width of the goods, and the kind of loom you are using. On general principles, it is safe to state that your waste should not exceed 3 per cent of the filling used on this number of filling, viz., 6s. I should say that the standard feeler will give good results if carefully set and watched, but the balance would be

in favor of the sliding feeler, although it may not be so easy to adjust the sliding feeler. The new intermittent feeler, which is now available, is said to be superior to all other feelers. However, the reduction of filling waste does not depend so much upon the kind of feelers as it does on the care and adjustment of same, and the care with which the bunch on the filling bobbin is made. A great deal also depends upon the general build of the bobbin.
Experience.

Question for Weavers.

Editor:

I wish to get some of the Bulletin readers to explain the best method of getting out a pattern to be slashed. Explain the arrangements of the beams prepared for the slasher.

For example, suppose the warp was to have 2,184 ends, and the warp pattern was 24 gray, 8 white, 8 black, 8 white, 8 black, 6 gray, 6 white, 6 gray and 8 white. I would like to have this in full detail from some man that knows.
X. T. B.

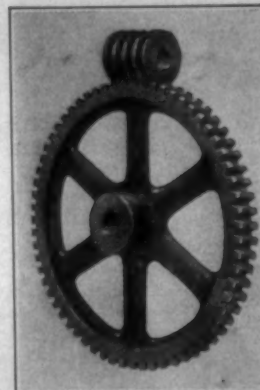
Answer to Bum Weaver.

Editor:

You do not state the kind of cotton you are using, nor whether you are using your card strippings over again. This would make considerable difference regarding the waste made. You do not mention whether your 12s yarn is warp or filling. More waste will be made in the preparation of filling yarns than when cotton is made into warp yarns. It also makes a big difference as to whether you are making 12s yarn out of cotton of less than one inch staple and, say, low or strict low middling, or out of inch to 1 1-16 staple middling. In order to get somewhere near answering your question, it will be necessary to lay things out by schedule as follows:

If made of poorer grades than middling and of staple less than one inch long and rework the card strippings, you might get your waste down to 12 per cent on warp and 13 per cent on filling twist. (Filling being much softer twisted it will lose much more in flyings, etc.)

If you do not rework the strips the waste made will come to near 15 per cent and 16 per cent, respectively. If middling or better cotton is used and which would be 1 1-16 to 1 1/2, to make an excellent yarn without the card strippings being used in same, 13 to 14 per cent



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waste would not be excessive for warp or hosiery yarns, respectfully. But if the strippings are used, and the yarn is not cleaned, the waste could be reduced down to 9 and 11 per cent, according to the twist in the yarns and other local conditions. What is meant by "other local conditions" refers to new or old machinery, condition of card clothing, day and night shifts, amount of humidity, oil sprayed raw stock or not oil sprayed, how many roving processes, are the empty roving bobbins emptied by cutting off tailings or by cleaning machines, what is the draft, long or short, large or small spinning bobbins. All of these things affect the waste end of the game to a greater or lesser degree. It is the same way with reference to the amount of training that the help have received, and the attention that the management gives to the plant. Tramp Overseer.

Answer to Agent.

Editor:

It will be hard to answer Agent's question because we do not know your local conditions. You did not state whether your fly wheel was single or double spoked, long or short spokes, wood or iron fly wheel, the distance between bearings and the size of your fly wheel shaft, and the length of your belts, and in what direction they deliver power—whether straight out, or up and down, or both. Also you did not state what horsepower you are obliged to have with which to operate your mill. All of these things must be considered. However, in the main, it is not considered safe to operate your fly wheel over 5,000 feet per minute on the basis of the circumference speed of the rim. Therefore, under ordinary conditions, the revolutions per minute at which it is really safe to operate your engine should not exceed 98 R.P.M. Engineer

Question on Waste.

Editor:

As you know, on account of the extraordinary season last year most of the cotton was somewhat shorter in staple than usual. In fact, our cotton in this neighborhood averaged 13-16 to $\frac{1}{8}$. The question has come up several times, on account of the better staples selling at a very high premium, as to whether or not it is more economical to pay these premiums and use $\frac{1}{8}$ to inch cotton instead. Shall, therefore, thank you very much if you will advise us your idea as to the difference in waste from middling cotton 13-16 to $\frac{1}{8}$ and the same grade in cotton running $\frac{1}{8}$ to inch. Miss.

The question which you ask is very difficult to answer, due to the fact that cotton varies in different sections of the South. 13-16 cotton from some sections would have less waste than $\frac{1}{8}$ to 1 inch cotton from another section.

Cotton, as you know, is measured from a small per cent of its fibers

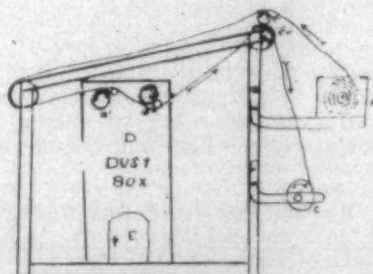
and practically no consideration is given to the length of the remaining fibers, and it is often the case that there is a large per cent of very short fiber and, therefore, a larger per cent of waste in one lot of cotton than in another.

Ordinarily, we would say that there would be about 1 per cent more waste in 13-16 to $\frac{1}{8}$ inch cotton than in $\frac{1}{8}$ to 1-inch cotton.—Editor.

Answer to Overseer of Finishing.

Editor:

Seeing a question by Overseer of Finishing regarding an inspection machine that will brush the cloth on both sides, if allowed space in your valuable paper, I will be glad to show him how to handle this proposition properly. Herewith is a cut showing just how this is done in one of our leading cotton mills.



Rough Sketch.

The accompanying cut shows exactly how this can be done. A is where the cuts of cloth are laid as they come from the loom. The cloth then pursues the directions of the arrows and passes toward the inspection table and towards the inspector instead of away from the inspector, as is usually done in many mills.

After the cloth has passed by the inspector, the cloth passes beneath the table over the first brushing roll B1 and then under the second brushing roll B2. B1 brushes the bottom of the cloth while B2 brushes the top of the cloth. Both brushes are run in opposition to the cloth. These brushes are in the dust box D. This confines the dust. E is a door through which the dust box may be cleaned as often as is necessary.

After the cloth has been brushed it passes out through the rolls F1 and F2 and is rerolled by the winding roll C. This way of inspecting cloth offers many advantages, as it brushes the cloth on both sides and keeps the cloth straight and smooth all of the time. H. D. B.

Mill Hand Calls for Pay Due 12 Years—

Providence, R. I.—Emma Hartmann, who left the employ of the Coventry Company Mill, at Anthony, 12 years ago, called this week for pay which was due her when she left and which had never before asked for. The office force was surprised by her visit, but upon looking back found that the payroll showed that 87 cents was due.

Not having the exact change, paymaster A. Kenneth Johnson gave the woman 90 cents.

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Our leno doups for weaving marquissettes and fancy leno weaves are universally accepted as the only satisfactory solution of leno weaving.

In fact, by using our doups, any weave room with dobby looms can make a leno stripe as easily and at as low cost as any ordinary fancy fabric and, that, too, without any extra attachments to the loom whatever—no, not even a jumper or a slackener attachment is required.

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Must Stress Style and Quality

London, England.—Both New England and English textile manufacturers should stress style and quality rather than price; the textile industry is not generally recognized as one of the most important industries of the world; America's textile exports represent 25 per cent of her export trade; New England and England need intensive modern salesmanship—these were some of the main points of an address by John S. Lawrence of Lawrence & Co., Boston, head of the Ipswich Hosiery Mills, who was recently entertained at luncheon in London by the Chamber of Commerce, when many prominent business men were present.

As reported in previous wireless dispatches to these columns, Mr. Lawrence confined himself to the common problems of the New England and British textile industry. He had often thought, he said, that many of the problems of England and New England were similar and could be solved in much the same manner. New England has much the same climate; it imports and of its food and raw materials; its people are capable, honest and clever; they love sport, they love their country, they love their homes and they do not want to migrate. Both sections have ample capital for the development and have outside investments which although diminished are very considerable. Both sections import more than they ex-

port and both ultimately depend upon the exports of their surplus production for the prosperity and happiness of their people, and in fact, must either export goods or people.

Factors Underlying Change.

Analyzing some of the fundamental changes which have taken place in the world and which particularly effect the interests of New England and British textile manufacturers, Mr. Lawrence stated that man and machinery had enormously increased the production of material. This enormous increase has been merchandised through a big increase in luxury and facilities for further increased production. During the last 10 years, and owing to the war, demand has exceeded supply and consequently production has been greatly stimulated, and as the war demand has ceased we are left with a world woefully out of balance. It is not conceivable he declared, that we should go backward in our production; the steamship has replaced the sailing vessel; rapid transportation has replaced slow, telegraph, telephone and wireless will always be with us, and improved methods of production will surely continue, and the people of this world will surely insist on means being found to market the productability of man. The social structure will never stand for economy if it means constant unemployment.

Giving an example of this evolution, Mr. Lawrence pointed out that the United States has produced three new industries in the past 25 years; those of motor transporta-

tion, of small electrical machinery, and chemistry, which employs today about one-third of the working population. America has successfully super-imposed upon her industrial fabric these three new industries employing one-third of her people, and marketed their output.

"One hundred years ago the textile industry developed in New England on account of the blockade of American ports, to employ the idle capital and labor there existing," he declared. "During these hundred years my great-grandfather, grandfather, father, and myself were deeply interested in its development. We have watched the building of factories in the Southern sections of the United States, and their capacity to produce the simpler fabrics more economically and sufficiently well to meet the needs of our people. We New Englanders have ourselves become interested in Southern mills as well as Northern, and I think we appreciate that stable merchandise logically will develop in Southern United States and that we in New England must rely upon the manufacture of that quality of merchandise which is primarily dependent on style and service for its success.

Higher Costs of Cotton Goods.

With the development of the industry in some of the most important former markets of Lancashire, and many of them with English capital, has come the shrinkage of the English market, the loss of orders, just as in New England, and the policy of the survival of its fit-

test is causing great distress to bear in those commodities which primarily depend on orders for cotton goods."

One of the common problems of all cotton manufacturers in the opinion of Mr. Lawrence is the relatively higher cost of cotton goods than that of other commodities. New sources of the supply of raw material have been slow in developing, and there is less cotton available for about the same number of spindles as before the war. Added to this, relatively higher wages have not brought with them corresponding labor saving devices and methods to permit of sufficient lowering of the price of goods to encourage stocking and a large distribution.

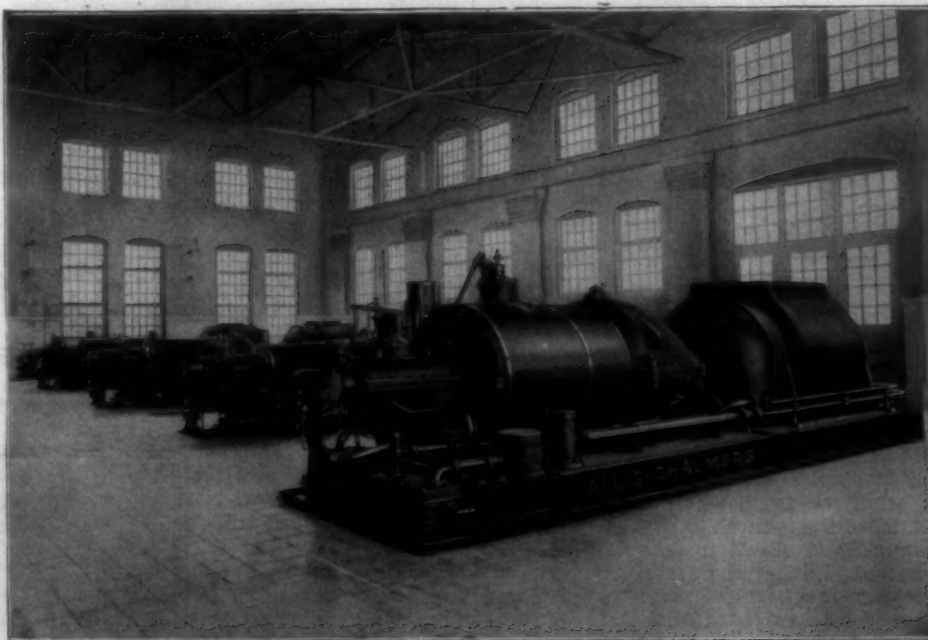
He is quite certain that at least a quarter of the cotton mills of New England must be either abandoned or find a new output for their energy, and he thinks this is probably also true of Lancashire. But there are new demands constantly developing, new uses that good management with a loyal support of labor and the community, can find.

Three years ago, he said, he was addressing a group of overseers of the Ipswich Hosiery Mills, and he inquired how many of those present were wearing the stockings they produced. There were few. It was evident that the fault lay either in the management's failure to produce what was wanted, or in the operatives having little confidence in their own output. Both were true, with the result that today the operatives of this mill are using among them-

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selves and their friends at full retail prices, about \$100,000 worth of their stockings a year as they prefer their own products. The quality of the goods have improved, many valuable suggestions have been made by the operatives, the number of seconds has been reduced, this home demand has radiated from Ipswich to Boston, to New England, to the country, to the world, and the wage distribution in the community has more than doubled.—(Daily News Record)

To Consider Cotton Production

Washington.—A proposal that a governmental commission be appointed to make an authoritative report on the whole question of active and potential cotton production both here and abroad, will be considered at the thirteenth annual meeting of the Chamber of Commerce of the United States, at Washington, May 20 to 22.

This proposal will come before the annual meeting from the chamber's agricultural bureau as a direct result of a study of the trend of cotton production in this country and abroad made by the bureau during the last year. This study, it is pointed out, should be supplemented by further detailed investigations by governmental agency.

The inquiry of the chamber's agricultural bureau into the world cotton situation disclosed that a steady decline in production in the United States, accompanied by increase in price of the American staple, has been reflected in increasing activity on the part of foreign governments to develop potential cotton areas outside of America, as well as in a slowing down of demand for finished mill products.

While it is not believed that there is any immediate danger that the United States will lose its position of dominance in the world cotton markets, yet the staff conducting the inquiry is convinced that the situation demands more aggressive efforts to stabilize production in this country.

"One great question which confronts the American cotton industry today," the agricultural bureau says, "is to what extent the fluctuations in production of raw cotton in this country has encouraged foreign governments to seek a more stable supply at a lower price through supplies produced in relatively new cotton areas overseas."

"Available data touching on the extent of overseas production, active and potential, of necessity is drawn from reports published by foreign governments. Much of this data is fragmentary, as it does not present a clear picture of the true situation. We need definite facts and figures which will indicate the exact status of cotton production in this country and the possibilities of stabilizing our annual production both as to quantity and price as well as similar data covering foreign activities in this field."

"It is for this reason that the forthcoming annual meeting of the chamber will be asked to consider

a proposal favoring appointment of a governmental commission, on which experienced cotton planters and manufacturers, in addition to governmental experts, will serve for making an authoritative report on the whole question of active and potential cotton production both here and abroad."

Production Gains in March

Washington.—Manufacturing production in March increased 2 per cent over February, when allowance is made for the longer number of working days, according to the index number of the Department of Commerce, and was 2 per cent higher than in March, 1924. Increases over a year ago were made in all groups except foodstuffs, textiles, chemicals and oils, and non-ferrous metals.

The output of raw materials was 3 per cent greater in March than a year ago, as computed by the Department of Commerce index numbers, while crop marketings increased 6 per cent.

The index of unfilled orders declined during March and was 5 per cent lower than a year ago.

Stocks of commodities held at the end of March increased 1 per cent during the month, when allowance is made for seasonal tendencies, and 9 per cent over a year ago. Stocks in each group, however, except raw foodstuffs, declined during March, when seasonal factors are eliminated, while compared with a year ago all groups showed increased stocks on hand.

Mill Shares Continue Decline.

The downward tendency continues in bid price of the textile stocks with the market relatively quiet showing a decline of 19c per share in the average of the 25 active stocks as compiled by R. S. Dickson & Company, Gastonia, Goldsboro, Greenville and New York City, the average for the present week being 116.72 compared with 116.91 for last week and 139.10 for the high average in 1924 which was in January. Very few sales in common shares were noted in the North Carolina market however the investment market was relatively active with Flint Preferred, Edna Preferred, Art Cloth Preferred and Smyre Preferred being actively traded in.

M. E. Missions Board Gets Textile Institute.

Spartanburg, S. C.—The Textile Industrial Institute, located near Saxon Mills, has been taken over by the general missions board of the Methodist Episcopal Church, South, the board assuming all indebtedness of the institute, it was announced by R. B. Burgess, president, who has just returned from a meeting of the mission board held last week in Nashville. This step is in accordance with resolutions passed by both the Upper and Lower South Carolina Methodist Conferences at conventions held recently.

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Dyeing of Cotton Knitted Goods

COTTON knitted goods were formerly used almost exclusively for hosiery and underwear fabrics, with a minor outlet to be found in fabrics for knitted gloves. During the last decade, however, articles of apparel has much increased, and we find ladies' suitings and men's overcoating material now made of this type of fabric. The manufacture of cotton knitted goods has increased tremendously in recent years; with improvements in machines for knitting and also with a careful study of the requirements for knitting yarns by the spinner there has been a great advance in the quality and usefulness of the knitted fabric.

In an informative article of the above title by J. Merritt Matthews, in the Color Trade Journal, he explains that the introduction of suitable bleaching methods for the treatment of knitted goods has made it possible to employ cheaper yarns to start with, and this, coupled with the fact that in this country, at least there has been a great expansion in the use of cotton knitted goods to replace those of wool, has led to a very widespread activity in the cotton knitted goods industry. It has come to be one of the most important branches of our present textile industry and a great dependence for the outlet of the cotton spinner. Not even the great vogue of silk

during the past ten years has been able to make much of an inroad on the use of cotton knitted fabrics.

The dyeing of cotton knitted goods may be divided into several rather distinct branches depending on the character and use of the fabric. By far the greater part of this class of fabrics is still employed for the manufacture of underwear garments, and by this term is meant those garments that are to be worn next to the skin. A fabric to be serviceable for this class of material must possess certain characteristics of texture and feel. It must be very elastic in order to conform closely with the form and movements of the body; it must be porous so as to admit of unrestricted evaporation from the surface of the skin; it must be absorbent so as to readily take up the moisture and perspiration constantly being thrown off by the pores; it must be soft and smooth so as not to irritate the delicate surface of the skin nor chafe when rubbed between the arms and legs; and it must be capable of being washed and laundered almost more than any other fabric employed as a garment material.

Color Requirements of Underwear.

Confining ourselves at present to the consideration of the dyeing of knitted goods destined for strictly

underwear fabrics, such as undershirts, drawers, union suits and the various articles of lingerie affected by women but included under this general group of garments, we will find to start with that the range of colors is somewhat limited and also that the qualities of the colors as to fastness and other properties are peculiar to the material and of a different character than those demanded for fabrics intended for outside garments, or even for those not worn directly next to the skin.

The colors required for strictly underwear garments as a rule are of the light and delicate shades, such as flesh, pink, orchid, peach, baby blue, light tan or the so-called Egyptian tint in imitation of the tint of true Egyptian cotton. In latter years, due to the increased vogue for colors, this range has been somewhat extended to other light tones of various colors, such as silvery gray and the various fashion shades that are from time to time popular in the public taste. In this connection a distinction must be drawn between this class of underwear fabrics and hosiery, for although the latter is also more or less worn next to the skin it must also be considered as an outside garment which is exposed to light and view during wear and calls for a much wider range of colors, including dark and

heavy tones, and even to a great extent black.

Natural Color Presents a Factor in Dyeing of Light Shades.

It is true that a small amount of knitted underwear fabrics are also dyed in dark colors and even black, but these fabrics form a very limited class chiefly for theatrical and other purposes, and consequently will not be considered at this present point of the subject. Since the usual run of colors for knitted underwear goods are of the light and delicate tones, it will be at once apparent that a good, clean and clear basis for the production of these colors must be necessary in order that the tones may not be dulled and thrown off of their proper tint. In the dyeing of a flesh or pink or baby blue for example, it will be difficult to produce a satisfactory color or ordinary unbleached cotton, as the natural tint of the raw cotton will quite materially affect the tone of the dyed color. This will be more apparent in some kinds of yarn than in others. When the fabrics are knitted from well cleaned, combed yarns, for example, the bottom color will be much more clear than when the yarns employed consist of a lower grade carded stock. In the latter case we have not only the natural tint of the raw cotton to deal with, but we also have the numer-

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ous moles and specks and so-called "sticks" that cause the fabric to have a speck and dirty appearance. These would show up very prominently as defects if the garment were dyed directly in a light tint and would furnish a product of a very unsatisfactory appearance.

A Preparatory "Half-Bleach" Necessary Before Dyeing.

It would seem necessary, therefore to thoroughly clean up the surface of the fabric first before attempting to dye it. It may be that there are cases where combed yarns may be dyed right off without preliminary cleaning treatment, but in the case of carded yarns it will always be necessary to remove as far as possible the specks and the bottom dirty brownish tint before attempting to dye a light, clear and pure tone of color. This cleansing operation is usually accomplished by a boiling-out and bleaching process. The bleaching of knitted goods for this purpose is usually of a less order than when the cloth is destined for white goods, as it is not necessary to produce a full degree of white. Such goods are usually given what is termed a "half-bleach," the chief attention being put on the removal of the specks, or at least to the decolorisation of these specks to the point where they will be sufficiently covered up in the subsequent dyeing and will not show up to the eye in the finished goods.

Before taking up the consideration of the dyeing proper, therefore, it will be necessary at this point to give some attention to the matter of bleaching knitted goods intended for dyed underwear. At the outset it may be said that this feature of the case is just as important, and in some ways even more important, than the dyeing process itself, for a great deal of the finished quality of the fabric, not only with respect to its color, but also to its feel and general appearance, will depend on the manner of bleaching operation and the care and insight with which it is carried out.

Method of Bleaching Dependent on Character of Yarn Used.

It is not our intention in this article to go into great details as to the numerous whys and wherefores of the bleaching art as applied to cotton goods, as this would lead us too far astray, but we will confine our remarks as far as possible to the scheme of bleaching, especially adapted to the purpose at hand. In the first place, the method of bleaching and the severity of the process will depend to a considerable extent on the character of the yarn of which the knitted goods is composed. As already stated briefly above, when fine quality combed yarns have been used in the knitting of the fabric the material will be rather clean to start with. There should be very little evidence of moles and shives and specks resulting from broken leaf and seed particles, as these should have been practically all removed during the preparation and combing of the cot-

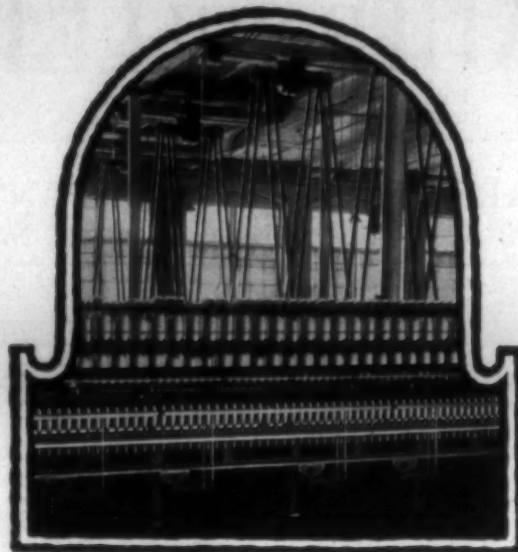
ton before spinning. There will, however, be still present the natural tint of the raw cotton, and this must be reckoned with in considering its use as a bottom for the particular color desired. If in the judgement of the dyer this natural color of the cotton fibre is such as to interfere with the proper dyeing of the shade desired, it will be necessary to remove it in order to obtain a sufficiently white bottom ground for the dyed color.

To obtain a satisfactory bleached bottom for combed yarns in knitted goods it will often only be necessary to give the goods a thorough scouring with a good quality of soap to which some turkey red or soluble oil has been added. If the yarns are of good quality cotton and not of the tinged kind so often to be met with in the carded yarns, this simple treatment will have the effect of cleaning up the goods and taking out a lot of the natural creamy or brownish tint always present in even the best grades of the whitest colored raw cotton. The goods may be boiled in the soap and soluble oil solution, but it is not necessary to use a closed kier for operation under pressure. A simple boiling tank provided with a satisfactory means of circulating the liquor is all that is necessary, and for this purpose about the best device that will be at the dyer's disposal will be perhaps the ordinary type of open kier with a central vomit pipe, or even outside vomit pipes, to carry the liquor around. It is only necessary to see to it that the cloth is thoroughly and evenly treated, otherwise streaks and stains will surely develop when the material is subsequently dyed.

Another system is to use the ordinary type of string tub dyeing or bleaching machine, where the knitted cloth is made up into long strings by piecing together several lengths as they come from the knitting machine. In the usual round or tubular knitting machine where the fabric is knitted in the form of a long cylinder, these knitted lengths are generally about 50 to 60 yards in length, and it will be found convenient to piece together three to four of these lengths, making strings about 200 yards. In any one mill where the knitted goods are to be dyed or bleached, and especially here the string tub machine is employed for this purpose, it will be wise to so regulate the knitting of the cloth in the first place that the lengths are as nearly alike as possible, so that in the subsequent make-up of the cloth in the dye-house the strings to be used as units in the process may be of approximately the same length. This precaution taken to start with will be the means of avoiding a good deal of trouble later on.

Where the string tub machine is used the soaping out operation is a very simple one; the goods are boiled for about half an hour in the soap and soluble oil liquor, and as the cloth is carried around through the liquor in a constant and uniform manner there will be little or no

(Continued on Page 32)



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SOUTHERN TEXTILE BULLETIN

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Managing Editor
Associate Editor
Business Manager

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Curtail Now

THE cotton manufacturing industry of the South is facing a critical situation and it is to be seen whether or not there is enough brains in the industry to bring it through without many casualties.

With the exception of a few specialties, buyers will not buy cotton goods or yarns today except at prices below cost and then only in very small volume.

For several years we have had to sell goods and yarns under the pressure of stocks held by mills, but during the past six months such stocks have been to a very large extent wiped out, and we had just reached the basis where the mills could face the buyers with almost clean warehouses, when the buyers conceived the idea of 20 cents cotton was in sight and began to withhold orders.

The situation that confronts the mills today is very aptly expressed in the following extracts from the weekly letter of the Hunter Manufacturing and Commission Company of New York:

It is not a matter of stagnant trade, for retail trade continues in very satisfactory volume, and freight carloadings show heavy distribution of merchandise, nor is it a matter of credit, for financial conditions are thoroughly sound—neither is it a lack of buying power, for the buying power of the country is undoubtedly better than a year ago, perhaps even better than two years ago on account of the improved position of the farmer. The fact is that the distributor of cotton goods, both wholesaler and retailer, continues to avoid any risk in buying ahead; they have in mind losses that they have taken on goods made of high-priced cotton, and continue of the opinion that a 25-cent level for cotton is one that does not warrant free operating.

The trade is anxious to see 20-cent cotton again, and apparently believes that price to be possible on the coming crop.

In both 1923 and 1924, the price did actually approach that level at sometime during the season, and they expect it to again this year. This feeling seems so widespread that it will take clear and positive proof that another thirteen and one-half million bale crop cannot be raised this year to dislodge it, and consequently for the next two or three months, while the cotton crop is in the making, it is quite likely that buying will be governed largely by the action of cotton. Many others besides the cotton goods buyers seem to think that while we may have periods of advancing prices, the main trend of prices in general for some little time to come will be downward.

With such a situation confronting the mills many are running out of orders, and unless they have the stamina and good sense to curtail promptly, there will again be an accumulation of goods and yarns and we will be forced to go through another year under the pressure of accumulated stocks which will mean another year of no profits.

Every mill man seems to be perfectly willing for every other mill to curtail, but he wants to continue to run his mill and pile up stocks.

Aug. W. Smith, of Greenville, S. C., hit the nail on the head when he said in a letter to us on March 10th:

I think the trouble with the textile industry is the great selfishness displayed by all executives. Until we can get selfishness knocked out of our business and are willing to co-operate on all fundamental business principles the textile industry will not improve.

Mr. Smith told the absolute truth as much as we regret to admit it.

A prominent commission merchant said to us in New York last week:

"If Southern mills would curtail 10 per cent from now until September 1st cotton goods prices would rise to a profitable basis, but it is too much to expect any concerted action."

A mill man said to us this week:

"If any man of reasonable business ability could be made Director General of the cotton manufacturing industry with the authority to regulate the production of the mills, the industry could be put upon a very profitable basis within three months."

He told the truth, but there can be no Director General, and we fear that the "great selfishness" which Mr. Smith described is going to cause mills to accumulate goods that will prevent profits for a considerable period ahead.

The steel industry was once in worse shape than the textile industry is today, but they had in their ranks men with enough ability and brains to solve the problem, and today they operate with splendid and regular profits.

The steel industry publishes to the world each month the exact amount of its unfilled orders.

They long since discarded the silly idea that the publication of such statistics would be to the advantage of the buyers.

They know that the owners of steel mills will regulate their production in accordance with the expansion or reduction of unfilled orders and thereby over production will be avoided.

The cotton goods and cotton yarn manufacturers have the absurd idea that they can produce goods and yarns above orders and by hiding them in their warehouses fool the buyers, but such stocks must eventually be sold and the buyers profit by every accumulation.

If a manufacturer of 5.50 sheetings had reliable statistics before him each month relative to the accumulation of such goods he would be slow to manufacture additional stocks when he saw the 5.50 sheeting stocks growing.

As much as we dislike Government reports, we believe it is absolutely essential to the prosperity of the textile industry of the South, that the U. S. Department of Commerce collect and publish each month statistics relative to the production and consumption of each class of cotton goods and cotton yarns.

If it were not for that "great selfishness" described by Aug. W. Smith the industry might collect its own statistics, but any such concerted action is not to be expected.

The immediate problem before the industry is to prevent another accumulation of stocks of goods and yarns by strict curtailment when orders can not be obtained.

We do not expect 20-cent cotton; in fact, we believe that the winter drought in Texas and the boll weevil emergence will eventually produce a condition that will force prices much higher.

We are, however, about the only cotton bull left today, and we realize that no man can now, with any accuracy, forecast today the size of the 1925 crop.

The cotton goods buyers are firmly convinced that cotton will go to 20 cents, and no matter whether they are right or wrong, their actions will, for the present at least, control

the volume of the orders the mills receive.

If the buyers are right in their expectation of 20-cent cotton, goods now accumulated may have to be sold upon the basis of lower priced cotton and the weight of the accumulated goods will prevent profits even to those who buy their cotton on the lower basis.

The only sensible plan under present conditions is to limit operations to orders and to curtail when orders can not be obtained.

Curtail now; not after stocks are accumulated.

That Old Gray Hat

A MAN with an income of \$75,000 recently sent an old gray felt hat to the hat cleaner rather than pay the price of a new hat.

Had he been a private citizen with a \$75,000 per year income he would have been dubbed a "tight wad" of the worst type, but he was President of the United States and his act was applauded as an object lesson in thrift.

The industries of this country need orders today and this is no time to give lessons in the art of renovating old clothes instead of buying new ones.

Every "tight wad" in the country who read of the act of President Coolidge gave an extra tug to his purse strings and thousands of fathers said to their sons, "Clean your old hat. That was good enough for our President."

When people do not buy hats, merchants who sell hats make less money for their families to spend and hat factories must curtail operations and cut down the number of people they employ.

Unemployed people buy less farm products and clothing and so down the line there is less to spend for everyone.

If a man with a small income decides to make the old hat do by cleaning, he is worthy of praise, but when a man with an income of \$75,000 a year tries to save \$5 by cleaning his old hat, he is worthy of condemnation, be he President or private citizen.

There is too much of this economy and thrift talk today, for unless people who are able to spend money do so, business can not go ahead upon a normal scale.

During the recent banquet of the American Cotton Manufacturers' Association in New Orleans, we sat next to a Richmond banker and heard him talk at length upon the extravagance of people of small means in buying automobiles. He made the usual argument that the failure to buy cotton goods was due to the purchasing of automobiles upon the installment plan.

When he had concluded we asked him one question: "How, then, do you explain the fact that saving deposits are now increasing and have increased for two years upon a scale never before known?"

He had to admit that he could not explain because it is difficult for him to say that automobile purchases prevent purchases of cloth-

(Continued on Page 30)

Personal News

C. H. Brumelow has accepted the position of overseer at the Aragon Mills, Aragon, Ga.

Dock Jolly, of Edgefield, S. C., has become overseer carding at the Wallace Mills, Jonesville, S. C.

S. H. Haynes has resigned as overseer spinning at night at the Lockmore Cotton Mills, York, S. C.

J. S. Davis has resigned as second hand in carding at the Industrial Cotton Mills, Rock Hill, S. C.

J. A. Wooten, of Lando, S. C. has become overseer of weaving at the Highland Park Mills, Rock Hill, S. C.

Yancey L. Yon has resigned as overseer carding at the Hartwell Mills, Hartwell, Ga.

W. P. Norman has been promoted to overseer carding at the Hartwell Mills, Hartwell, Ga.

G. J. King has been promoted from night overseer to day overseer of spinning at the Lockmore Cotton Mills, York, S. C.

J. A. Campbell, Seneca, S. C., has accepted the position of overseer spinning at the Aragon-Baldwin Mills, Whitmire, S. C.

D. J. Dennis, of Albemarle, N. C., has become second hand in No. 3 spinning at the Marlboro Mills, McColl, S. C.

Will Dill has been promoted from second hand in weaving to overseer night weaving at the Industrial Cotton Mills, Rock Hill, S. C.

W. L. Kate has been promoted from loom fixer to second hand in weaving at the Industrial Mills, Rock Hill, S. C.

J. H. Sanders, formerly of the Laboratory Mills, Lincolnton, N. C., is now second hand in carding at the Industrial Cotton Mills, Rock Hill, S. C.

Robert L. Lipscomb, of Cowpens, S. C., has become overseer of the cloth room at the Red Springs Cotton Mills, Red Springs, N. C.

E. S. Tennent, mill purchasing agent of Spartanburg, S. C., has been elected president of the Spartanburg Rotary Club.

E. C. Hendrick has resigned as overseer carding at the Dilling Mill, Kings Mountain, N. C., and accepted a similar position at the Efrd Mills Nos. 4 and 5, Albemarle, N. C.

George W. Johnson has resigned as overseer weaving at the Fountain Cotton Mills, Tarboro, N. C., and accepted a similar position with the Cochran Cotton Mills, Tarboro, N. C.

B. B. Burnett has resigned as overseer spinning at the Henrietta Mills, Caroleen, N. C., and accepted a similar position with the Florence Mills, Forest City, N. C.

B. H. Lowe, of Burlington, N. C., has become overseer weaving and assistant superintendent of the Otteray Mills, Union, S. C.

J. J. Hand of the Eureka Mills, Chester, S. C., is now night overseer of weaving at the Aragon-Baldwin Mills, Chester, S. C.

A. L. Cranford has resigned his position at the Dacotah Mills, Lexington, N. C., to become overseer weaving at the Fountain Mills, Tarboro, N. C.

G. C. Clark, who recently resigned as overseer weaving at the Watts Mills, Laurens, S. C., is now designer at the Aragon-Baldwin Mills, Whitmire, S. C.

T. W. Barnes has resigned his position with Mountain View Mills, Gastonia, N. C., to become night overseer spinning at the Lockmore Cotton Mills, York, S. C.

S. H. Childers has been promoted from second hand in weaving to overseer of the cloth room of the Industrial Cotton Mills, Rock Hill, S. C.

J. L. Hinson has resigned his position with the Selma Cotton Mills, Selma, N. C., to become overseer carding at the Liberty Mills, Clayton, N. C.

J. E. Byars has resigned as superintendent of the Gambrell and Melville Mills, Bessemer City, N. C., and accepted a similar position at the United Mills Company, Mortimer, N. C.

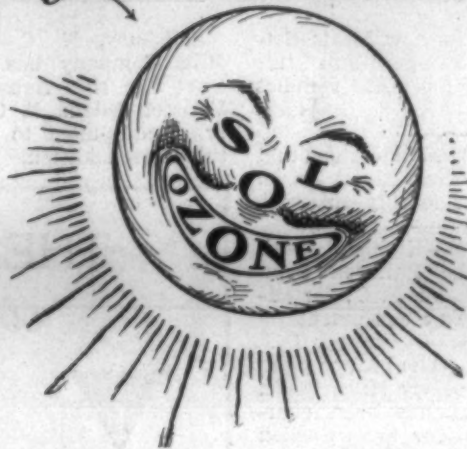
W. W. McDowell has resigned as overseer finishing and shipping at the Springstein Mills, Chester, S. C., a position which he held for 19 years. He was employed continuously by the company for 32 years.

C. P. Hostetter, who has been district manager in the Southeast territory for the J. B. Ford Company, Wyandotte, Mich., for the past eight years, has resigned and will enter business for himself in Texas.

Dwelle and McLellan to Talk at Georgia Meeting.

Atlanta, Ga.—Additional features of the silver anniversary convention of the Georgia Cotton Manufacturers' Association, to be held here on May 11 and 12, at the Biltmore Hotel, will be the presence of E. C. Dwelle, president of the Cotton Manufacturers' Association of North Carolina, the executive group of Charlotte, N. C., textile mills, and A. W. McLellan, president of the Cotton Manufacturers' Association of Louisiana, of New Orleans. The presence of these visiting executives is in line with the plan of the Georgia association to develop a better feeling of cooperative action throughout the industry, it is announced. The visitors will make short addresses along this line.

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MILL NEWS ITEMS OF INTEREST

Mexia, Tex.—The new Mexia Cotton Mills began operations this week. The mill has 5,000 spindles and 128 looms.

Atlanta, Ga.—It is understood that the duck mill in the Federal Prison here will be considerably enlarged.

Charlotte, N. C.—Highland Park contract with the Bahnson Company, Winston-Salem, N. C., for additional humidifying equipment.

Huntsville, Ala.—The branch plant of the Aycock Hosiery Mills, South Pittsburgh, Tenn., has been completed and operations are expected to start this week.

El Paso, Tex.—The El Paso Cotton Mills will increase capital stock from \$500,000 to \$600,000 and double the capacity of the mill.

LaGrange, Ga.—The Valley Mills, one of the Fuller E. Callaway chain of mills, has placed order with the Bahnson Company for additional humidifiers for their card room.

Pageland, S. C.—Pageland Cotton Mills have placed contract with the Bahnson Company, Winston-Salem, N. C., for conditioning room equipment.

Wendell, N. C.—Organization of a company to build a new cotton mill here has been practically completed, according to R. B. Whitley, who is promoting the company. The company will have a capital of \$200,000, of which 90 per cent has been subscribed.

Marietta, Ga.—The plant of the Marietta Cotton Mills, which has been in the hands of L. M. Blair, trustee, for some time, has been acquired by the Atlanta Cotton Products Company, of Atlanta, of which P. A. Ammon is president. The mill, which has been idle for some time, will be repaired and overhauled and placed in operation of medium count cotton yarns. It has 3,072 spindles and has been idle for some time.

Durham, N. C.—Contract for the building of the new Durham Novelty Weaving Mill will be let in a few days and construction will begin shortly. The building will be full daylight mill construction and will provide 15,000 square feet of space. One hundred box looms, with individual motor drive, will be installed at the start, leaving space in the building for considerable expansion as the business develops. It is hoped to have the building ready for the machinery by early fall. Novelty patterns will be produced. H. A. Pollard, of Durham, is president of the company and E. S. Yarbrough, formerly of Henderson, general manager.

Salisbury, N. C.—Rowan Cotton Mills Company has awarded contract to the Bahnson Company, Winston-Salem, N. C., for humidifying equipment to be installed in their new addition.

Kershaw, S. C.—Contract for the textile motors, transformers and switchboards in the electrification and doubling of the Kershaw Cotton Mills has been let to the Allis-Chalmers Manufacturing Company.

Concord, N. C.—White-Park Mill Company has placed contract for humidifying equipment with the Bahnson Company, Winston-Salem, N. C.

Carrboro, N. C.—Durham Hosiery Mills No. 7 have placed contract for conditioning room equipment with the Bahnson Company, Winston-Salem, N. C.

LANCASTER, S. C.—The Lancaster Cotton Mills have let contract to the Allis-Chalmers Manufacturing Company for 100 loom motors which will be used in changing their weaving from the belt drive to the motor drive.

Marion, N. C.—The Cross Cotton Mills have started work on an addition to their plant which will accommodate 4,500 additional spindles. The contract for the building was placed with the Gaston Construction Company, Gastonia, N. C. Contract for new motors was let to the Allis-Chalmers Company.

Thomasville, N. C.—The Maurice Knitting Mills, on Taylor avenue, Thomasville's newest industry, opened for operation regularly this week. It is under the management of T. E. Jennings and starts with 50 machines. Samples of its first product are attractive, a good business is expected.

Stony Point, N. C.—The controlling interest in the Rockyface Spinning Company has been sold by Samuel and J. L. Turner, who have operated the mill for some years, to Dr. K. R. Lewis, of Charlotte, and F. C. Todd, of Gastonia. Mr. Todd was formerly superintendent of the Ruby Cotton Mills in Gastonia, and will come here to take active charge of the mill.

Rome, Ga.—It is understood that plans for the new Southern plant of the Brighton Mills, to be located here, are being prepared by J. E. Sirrine & Co., Greenville. The spinning mill will be two stories, 345x134 feet, and the weave shed one story, 505x153 feet. In addition there will be warehouse and boiler room. The plant is to have 24,572 spindles and manufacture tire fabrics.

Spartanburg, S. C.—The Spartanburg County Mills were sold at public auction by the receiver Monday morning during the legal hours for sale, and were purchased by Horace L. Bomar, local attorney, for \$134,000. The bidding began at \$100,000 and was participated in by the Gray interests at Woodruff and Mr. Bomar, the former carrying the price to \$133,000.

The sale included the plant and real estate of the mill, with the equipment and fixtures and stock. The mill was placed in the hands of a receiver more than a year ago,

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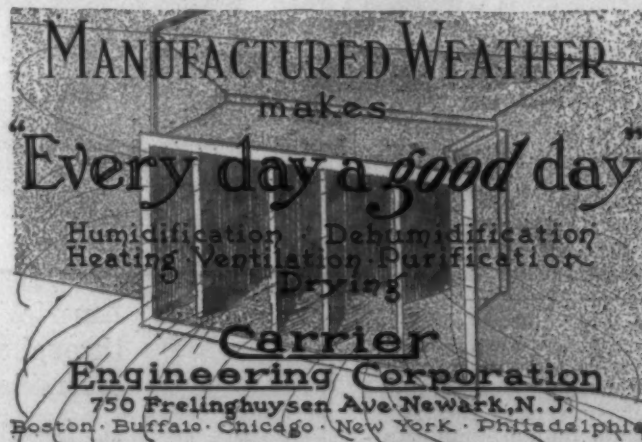
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and the sale was for the purpose of liquidating.

Mr. Bomar's plans in connection with the mill are not known. He announced immediately after the sale that he is not ready to disclose his plans, but may issue an announcement within a few days.

The mill, which is located at the former site of Camp Wadsworth, two miles west of the city, has a value of approximately \$400,000, it was learned from an authentic source.

The sale was authorized to permit the receivers to satisfy so far as possible a number of creditors holding claims against the property, it is said. While the amount of indebtedness could not be ascertained, it was said that among the creditors are the two receivers, the estate of W. S. Gray, Frank Hodges, of this city, and a number of machinery manufacturers in the North.

The plant was shut down about two years ago, it being announced that lack of orders necessitated the move. Approximately 20 attractive homes for operatives form a part of the mill property.

Mill Labor Plentiful in Texas

Fort Worth, Tex., May 4.—Getting labor has proved one of the easiest solved problems of cotton mills established in this section, according to Roscoe Ady, manager of the Fort Worth Chamber of Commerce. Approximately 3,000 workers are without jobs today, he said. An indication of the class of help that can be secured is the fact that out of 420 were high school graduates, while the remainder had sixth grade education or better. These girls start at \$7 a week and are paid \$11 a week after they are trained.

"Worth Mills at Fort Worth started operations December 15, 1924," Mr. Ady said. "This mill has 16,000 ring spindles and 6,000 twister spindles. It runs exclusively on cord tire fabrics.

On April 29, 1925, Don Towers, manager of the mill, made the following statement in regard to the labor situation:

"When we started up we had more than 2,000 applications for work. We found we could get any

number of beginners at \$7 per week of 55 hours. The applicants for work learned quicker than any help I have ever seen in any community. Girls who never saw a spinning frame until January are now running eight sides; in that time they have learned to doff and piece up their own ends. There is no girl in the mill who has not completed the fifth grade in school, and some business college graduates. The help is the most intelligent I have ever found anywhere. More than two out of three of all employees that have been hired are with us now. The turnover promises to be very small. We have girls come to the mill every day begging for work.

"The range of pay to the girls is from \$11 to 14 a week. We pay \$14 to a ten-side spinner. Male help, such as card hands and pickers, is paid 25 cents per hour and there is plenty of it available. Section men and card grinders are paid \$21 per week.

The average wage for male and female labor, from sweepers, to foremen, ranges from \$13.50 to \$14 per week of 55 hours."

Expected Prison Mill to be Enlarged.

Washington, D. C.—Expansion of the duck mill at the Federal Penitentiary at Atlanta, so as to produce other cotton goods, is about to be made by the Department of Justice, it was learned here. While department officials said that no final decision had been reached, the Budget Bureau is so assured of the expansion that it has sent circular to all Government departments saying that the Atlanta prison will fill orders from Federal agencies for various cotton textiles in addition to duck.

It was said at the Department of Justice today that expansion of the duck mill, which obviously would necessitate additional machinery, was "under construction," but had not been approved by the attorney-general yet.

The Budget Bureau, however, has sent circulars to all departments notifying them that the Atlanta prison will fill orders for denims, drills, three leaf, checked and plain nainsook and sheeting 40 to 81 inches in width.

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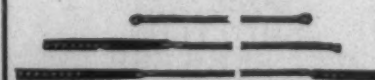
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Link-Belt Company of Indianapolis, Chicago and Philadelphia has just announced that after many years of work and study of the problem of standardizing and manufacturing silent chain drives for stock, it has placed in operation a new plan by which complete lines of silent chain drives of from one-quarter to ten horsepower, in practically any reduction from one to one to seven to one, are now available for immediate delivery, by distributors located in many principal cities of this country.

Back of these distributors will be immense stocks carried in reserve in the warehouse of the company's factories at Indianapolis and Philadelphia.

For more than twenty years the installation of silent chain drives has been an engineering problem. Under the Link-Belt plan it remains somewhat of an engineering problem, but one which has been simplified in conveniently arranged tables, which have been published in book considered before this plan could form for distribution by this company.

The many details which had to be put to practical use are interesting; but to relate them here would require too much space.

The stock drive chain is of the same high standard of quality, as those that are built for special application. The patented bushed joint construction shown in figure two is the same in the standard stock drive chains as it is in the standard Link-Belt silent chain used

for the past 20 years for industrial drives. Distributors are being appointed as rapidly as it is possible to secure the type which will assure Link-Belt service.

Curtail Now

(Continued from Page 26)

ing and at the same time allow record breaking savings deposits.

As much as we suffered from the collapse in 1920, we must admit that everybody enjoyed the boom while it lasted.

Then everybody was buying things and everybody was busily employed at profitable prices making things for sale. Those who bought your products spent their money for the products of theirs and the money you spent came around in a cycle and added to the

business and prosperity of your business.

Now few buy and the volume of business and profits is not such as to produce a cycle of business and prosperity.

One industry may make a little spurt, but lack of buying in other lines is not enough to carry the cycle through and bring back to the original industry the orders that are necessary for its continued prosperity.

If the money that is being put away in savings deposits was being spent for necessities and luxuries there would be far more and better business today.

It was not an opportune time for a \$75,000 public official to try to set an example in thrift by having an old gray hat sent to the cleaner.

There was already too much thrift talk and too little buying.

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Incorporated 1914

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Try Our New Automatic Shuttles for either cotton or woolen weaving. It is meeting every requirement with entire satisfaction.

British Exports of Textiles Gain

PUBLICATION of the British Board of trade returns for the month of March, showing the imports and exports of textiles during the first quarter of the present year, disclosed some large increases over the same period of last year. The value of raw materials for the textile industry imported this year already exceeds last year's total by over £15,000,000, of which the wool and the cotton industry is each responsible for over £6,000,000. Smaller increases are seen in the imports of manufactured textiles but the value of apparel imports exceeds those of the same period last year by £1,500,000.

With the exception of decreased exports of raw silk and silk manufactured goods, the whole of the textile trade shows a more satisfactory foreign trade than at this time last year. The largest increase among textile exports were in cotton yarns and manufactures, woolen and worsteds, raw wool and "manufactures of other textile materials." The exports of cotton yarns and manufactures during the first quarter of the present year were valued at £56,582,887, which shows an increase of £8,313,194 over the first three months of 1924. Exports of woolen and worsted yarns and piece goods valued at £17,832,040 indicate an increase of £1,280,033 over the first quarter of 1924 and apparel exports standing at £8,043,-

978 show an increase of £914,489.

Imports of U. S. Cotton Increase.

Higher imports of American cotton were almost entirely responsible for the increased raw cotton imports. During the first quarter of this year the imports into the United Kingdom of this commodity totalled 4,834,432 centrals compared with 2,635,803 centrals in the first three months of 1924. The value of the imports increased from £22,351,796 to £29,552,830. The price question was solely responsible for the higher raw wool imports for the actual volume has declined during the past three months, particularly in the case of South Africa and the Argentine.

Conditions in the woolen and worsted industry were not so good last year so that manufacturers will overlook the recent decrease in the export trade. Despite the higher prices, which give a good appearance to the values side of the British Board of Trade returns for the first three months of the year, the actual volume of the exports has declined to an extent which is likely to cause a certain amount of perturbation among domestic manufacturers. The actual exports of woolens for the period under review were 38,017,000 square yards compared with 40,697,000 square yards in the same period of 1924, and worsteds 15,172,000 square yards, compared with 16,283,800 square yards.

A satisfactory side of the returns is the higher exports of woolens to

the United States during the first quarter and the higher exports of worsteds during March. The quantity of woolens shipped to America this quarter amounts to 2,736,000 square yards compared with 2,728,800 square yards last year. In the case of the worsted industry there has been a decline from 2,112,500 to 2,091,500 square yards. Other markets which show signs of improvement are the Netherlands, Germany, Greece, France and Brazil, China, Japan and several of the Colonial markets have not been so good.

Cotton yarn exports amounted to 49,756,200 centrals compared with 38,285,400 centrals in the same period of last year, and similar satisfactory increases were reported in the piece goods trade. Exports of unbleached cotton piece goods to America amount to only 36,998,000 square yards compared with 39,298,300 square yards in the same quarter of last year. Exports of all kinds of cotton piece goods to America show a downward tendency. Under the heading of "piece goods dyed or manufactured of dyed yarn," the exports to the United States this year amount to only 3,139,100 square yards compared with 6,386,200 square yards in the first quarter of 1924 and 13,160,100 square yards in the same quarter of 1923. There has been, however, a slight increase in the exports of flags, handkerchiefs, and shawls exported to America; from 704,500 square yards in the first quarter of last year to 764,700 square yards this year.

Waterproof Garments Show Rise.

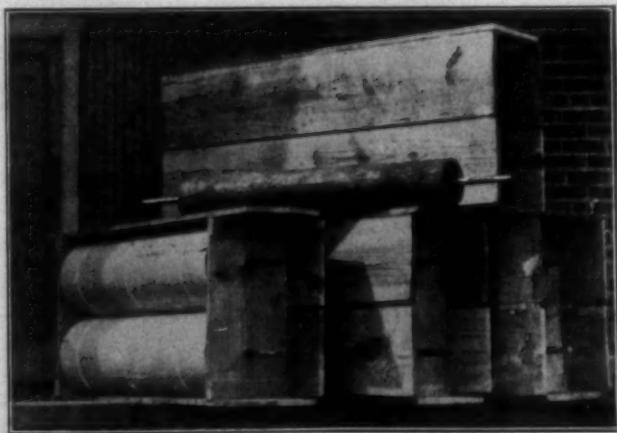
Linen exports to America for the quarter total 18,364,500 square yards valued at £1,327,731 compared with 19,706,600 square yards valued at £1,264,622. Despite this large drop in the volume of exports it will be seen that the value has increased considerably.

A tremendous jump is reported in the exports of waterproofed clothing to the United States due, no doubt, to the popularity there of British oiled silk garments which have been bought in large quantities by American department stores during recent months. The number of garments shipped during March last was 5,625 compared with 901 garments in March of last year, and 988 in March, 1923. The total number of waterproofed garments shipped to America this year already amounts to 11,328 valued at £12,587. Actual clothing exports to America during March were valued at £393,527 compared with £323,964 in March of last year.

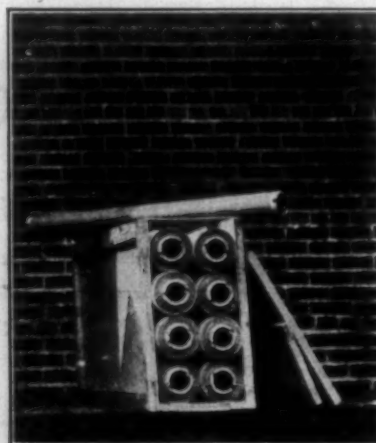
Wool hosiery exports to the United States this year so far amount to 80,074 dozen pairs compared with 65,222 dozen pairs in the first quarter of last year, and 48,204 dozen pairs in the first quarter of 1923.

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Six spindle plumbers. Must be first class. Steady work, top salary. Don't misrepresent. Wire, don't write. Yates D. Smith, Ella Mill, Shelby, N. C.



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DUPLAN
SILK CORPORATION

Dyeing of Cotton Knitted Goods

(Continued from Page 25)

danger of uneven treatment. Also as the goods are open and free they will clean up easily as there will be no possibility of pockets of dirty liquor forming in the folds of the cloth, as is often the case when kier boiling is resorted to. The goods furthermore need not be removed from the machine, but after the soaping out, the liquor is run off, the cloth is rinsed well in fresh hot water, this liquor is run off, and then the goods are ready for dyeing and are generally dyed right off in the same machine, especially where the light and delicate shades are employed and the machine is not stained up with the dye-bath so that a subsequent lot of goods could not be scoured out afresh in the same apparatus.

Soaping Out and Dyeing in Same Machine.

The employment of the machine for soaping out does not interfere in any manner with its use for dyeing, for in this case the dyes employed are generally the substantive cotton colors, and it is customary to dye them in a soap bath so as to obtain even and well penetrated and distributed colors, so it does not make any particular difference if there is some of the soap left in the goods or some of the soap residues left in the tub. It must not be taken

from this, however, that the goods should be dyed right off after soaping and without rinsing. The purpose of rinsing in this case is not so much to remove the soapy residues as it is to remove the dirty water from the cloth and thus to render the fabric as clean as possible. After the soaping off of the goods quite a lot of the coloring matter present in the cotton will be dissolved out, also a very large proportion of the waxes and oils and pectin matters present on the raw cotton fibre will be removed and pass into the soapy liquor, by reason of which this liquor will acquire a somewhat dirty and brownish color, and this must be removed from the goods and from the dyebath in order to give a clean fabric. A great deal of the natural coloring matter as seen on the raw cotton fibre is contained in the waves and other impurities in the cotton, and when these are removed it will be found that most of the color is also removed.

A Thorough Rinsing Essential to Good Results.

Attention must be called at this point to the necessity of rinsing the goods in hot or warm water where they have been soaped out. If cold water is run on the goods when they will have the soapy and dirty liquor in them chances are that a good deal of the soap will be precipitated in the form of a fine deposit and this will carry down with it, of course, a good deal of the dirt and color so

that the goods will be tinged. By taking care that the rinse is carried out with hot water this fault will be avoided. For this purpose it is well to have the steam and water pipes arranged at the machine in such a manner by a simple form of steam injector that the water may be sufficiently heated as it passes into the machine; or a separate line of hot hot may also be provided. But in any case see to it that the soapy goods are rinsed off with hot water. The rinsing operation need not take more than 15 to 20 minutes, it being so conducted by partially opening the outlet drain valve, that a constantly stream of fresh warm water is constantly coming into the machine while the dirty wash water is running off.

In the case of boiling the goods in a kier it is well to use only the same treatment with soap and soluble oil. If a pressure kier only is available, this may be used though it is necessary, as an open kier will do as well in the cleaning up of the cloth and in production of a better white bottom. Unless a very pure water is employed throughout the operations there will always be a small trace of iron deposits left in the cloth which will have the effect of giving it a slight brownish tint. The acid sodium fluoride will remove this in a very complete and satisfactory manner so that the goods come up nice and clean. This salt is now employed very largely by laundries for the same purpose and has been giving excellent re-

sults in clearing up tinged goods. Formerly a small amount of hydrochloric acid was added to the second rinse water and sometimes a small amount of oxalic acid was employed, but experience has demonstrated that it is best to use the acid sodium fluoride for this purpose.

It is not well to use caustic soda or soda ash for the preliminary cleaning of cloth of this character as a basis for dyeing delicate shades. These strong alkalies, it is true, will more thoroughly remove the waxy matters and impurities from the cotton, but they generally leave it somewhat stained in color. In fact, it will often be noticed that goods that are boiled-out with caustic soda or with a mixture of caustic soda and soda ash will show even a somewhat darker color than the original raw cotton. This is due to the fact that the strong alkalies break down the pectin and resinous matters that stain the fibre and that can only be removed as a rule by subsequent bleaching with a hypochlorite bath. The use of caustic soda, soap and soluble oil all in admixture will furnish a whiter bottom than when caustic soda alone is used. But in the case where a good quality of combined yarn has been employed in the making of the cloth so that it is free from motes and shives consisting of leaf particles and broken seed hulls, there will generally be no need of employing caustic soda or even soda ash for clearing up the goods with the purpose of obtaining a whiter bottom for dyeing.

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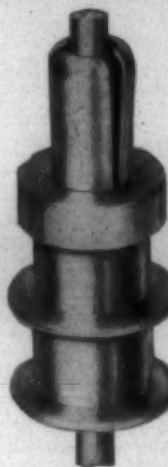
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North Carolina Industry Gains

The manufacturing industry in North Carolina made the big jump of 43.1 per cent in the two-year period from 1921 to 1923. This was announced by the Department of Commerce at Washington as the result of the data secured in the 1923 biennial census of manufactures. For 1923 the value of the products—at factory prices—of the 2,670 manufacturing establishments in North Carolina aggregated \$951,911,000. This aggregate represents the increase of 43.1 per cent as compared with the \$665,118,000 value of the products of the 2,602 establishments in 1921. The statement continues:

"These figures relate to manufacturing establishments whose output during the year was valued at \$5,000 or more. The elimination of data for the smaller establishments has only a slight effect on the totals.

"In making use of the statistics for value of products, it must be remembered that, because of the fact that the products of many manufacturing establishments are used as materials by other establishments, the aggregate value of the products of all manufacturing industries combined is considerably in excess of the total value of finished manufactured products in the form in which they reach the ultimate consumer.

"The 'cotton goods' industry is the leading one in North Carolina, as measured either by number of wage earners or by value of products. In this industry the average number of wage earners employed during the census year increased from 66,316 in 1921 to 81,041 in 1923, the per cent of increase being 22.2; and the value of products increased from \$190,990,000 in 1921 to \$326,572,000 in 1923, the rate of increase being 71 per cent. The number of establishments increased from 343 to 351; wages from \$41,398,350 to \$54,842,992."

Knit goods: Average number of wage earners increased from 8,650 in 109 establishments in 1921 to 12,351 in 109 establishments in 1923.

Rayon Plant May be Started by New Bedford Mill.

New Bedford, Mass.—Erection of a plant in this city to supply the local mills with their requirements of rayon yarns is a possibility that may materialize during the next six months or a year, according to a report that emanates from a source in touch with important New Bedford manufacturers. The advisability of bringing such a plant to New Bedford is being seriously talked about among leading treasurers here, it is stated, but as yet the subject is confined to conversation. There is said to be a growing dissatisfaction with the prices asked by the corporations now producing rayon fibres. The fine yarns mills foreseeing further great expansion in the use of cloths containing rayon, would like to have an independent source of supply of the artificial silk, according to these reports.



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They are made to carry safely their specified load, but to open promptly the circuit when the prescribed overload is reached—and to reduce fire hazard to a minimum when the unexpected and severe short circuit occurs. *They give the greatest safety at lowest cost.*

The dependable performance and unusual *safety* of "Union" Renewable Fuses are due largely to the specially designed patented Link. This Link blows without flash or violence. The fusing point is in the center, too far from metal parts to enable heat and gases to fuse and corrode them. The center of link simply vanishes when it blows, leaving a gap so wide that arcing is impossible.

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Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

Page	Page
A	L
Allis-Chalmers Mfg. Co. 22	Ladew, Edward R. Co. 27
American Laundry Machinery Co. 29	Lane, W. T. & Bros. 46
American Moistening Co. 41	Liberty Mutual Insurance Co. 44
American Textile Banding Co. 34	Langley, W. H. & Co. 44
American Schaeffer & Budenberg Corp. 44	Leslie, Evans & Co. 44
Amory, Browne & Co. 30	Iestershire Spool & Mfg. Co. 44
Arabol Mfg. Co. 41	Link-Belt Co. 30
Arnold, Hoffman & Co. 50	Lockwood, Greene & Co. 30
Ashworth Bros. 35	Lowell Shuttle Co. 30
Atlanta Brush Co. 20	M
Atlanta Harness & Reed Mfg. Co. 20	Macrodi Fibre Co. 45
B	Marston, Jno. P. Co. 45
Bahnson Co. 46	Mathieson Alkali Works 45
Bancroft, Jos. & Co. 16	Mauney Steel Co. 47
Barber-Colman Co. 16	Memphis Cotton 35
Bond, Chas. Company 21	Morrow Machine Co. 33
Barber Mfg. Co. 30	Metallic Drawing Roll Co. 33
Borne, Scrymser Co. 30	Myles Salt Co., Ltd. 47
Bosson & Lane 30	Metz, H. A. & Co. 47
Brown, David Co. 30	Mississippi Cotton 47
Brown St. Onge Co. 30	Moreland Sizing Co. 51
Butterworth, H. W. & Sons Co. 30	Morse Chain Co. 51
C	Mossberg Pressed Steel Corp. 51
Carrier Engineering Corp. 28	N
Carter, A. B. 45	Noone's Joseph Sons Co. 19
Catlin & Co. 52	National Aniline & Chemical Co. 45
Charlotte Leather Belting Co. 12	National Ring Traveler Co. 47
Chicago Board of Trade 33	Newberger Cotton Co. 47
Chicago Belting Co. 33	N. Y. & N. J. Lubricant Co. 43
Chicago Fuse Mfg. Co. 38	North Carolina Cotton 50
Cocker Machine & Foundry Co. 38	Norwood Engineering Co. 50
Collins Bros. Machine Co. 38	P
Corn Products Refining Co. 38	Page Fence & Wire Products Assn. 51
Courtney, Dana S. Co. 38	Paige, Schoolfield & Co. 45
Crompton & Knowles Loom Works 38	Parker, Walter L. & Co. 49
Crump, F. M. & Co. 44	Parks-Cramer Co. 11
Curran & Barry 14	Paulson, Linktroum & Co. 44
Curtis & Marble Co. 14	Penick & Ford, Ltd. 44
Cyclone Fence Co. 14	Perkins, B. F. & Sons 44
D	Puro Sanitary Drinking Fountain Co. 42
Dan Gear Co. 29	R
Dary Ring Traveler Co. 29	Republic Chemical Co. 46
Davidson, Jos. L. Co. 29	R. I. Warp Stop Equipment Co. 29
Diamond State Fibre Co. 39	Rice Dobby Chain Co. 29
Dixon Crucible Co., Joseph 39	Ridley, Watt & Co. 27
Dixon Lubricating Saddle Co. 34	Roesler & Hasslacher Chemical Co. 27
Drake Corp. 28	Reeves Bros., Inc. 44
Draper, E. S. 1	Rogers Fibre Co. 38
Draper Corp. 44	Root Co. 38
Deering Milliken & Co., Inc. 29	Roy, B. S. & Son 38
Dronsfeld Bros. 31	S
Druid Oak Belting Co. 31	Saco-Lowell Shops 47
Duplan Silk Corp. 4	Sanders, Smith & Co. 47
DuPont de Nemours, E. I. & Co. 4	Sayles Finishing Plants 47
E	Scott, Henry L. & Co. 47
Eclipse Textile Devices, Inc. 37	Seaboard Ry. 47
Economy Baler Co. 49	Sellers, Wm. & Co. 47
Emmons Loom Harness Co. 46	Seydel Chemical Co. 28
Entwistle, T. C. Co. 2	Seydel-Thomas Co. 28
F	Siggers & Siggers 28
Fafnir Bearing Co. 20	Sirrine, J. E. & Co. 6
Ferguson Gear Co. 20	Slip-Not Belting Corp. 18
Fales & Jenks Machine Co. 28	Sonoco Products 47
Farish Co. 13	Southern Ry. 36
Firemen's Mutual Insurance Co. 36	Southern Spindle & Flyer Co. 52
Ford, J. B. Co. 33	Stafford Co. 21
Fournier & Lemoine 33	Steel Heddle Mfg. Co. 21
Franklin Process Co. 46	Stein, Hall & Co. 33
G	Sydnor Pump & Well Co. 33
Garland Mfg. Co. 29	T
Grasselli Dyestuff Corp. 29	Terrell Machine Co. 43
General Electric Co. 30	Texas Cotton 43
Georgia Webbing & Tape Co. 25	Textile Mill Supply Co. 43
Graten & Knight Mfg. Co. 33	Thomas Grate Bar Co. 43
Greensboro Loom-Reed Co. 24	Tolhurst Machine Works 43
H	Tripod Paint Co. 43
H. & B. American Machine Co. 24	U
High Point Loom Reed & Harness Co. 45	United Chemical Products Co. 51
Hollingsworth, J. D. 15	U. S. Bobbin & Shuttle Co. 46
Hopedale Mfg. Co. 15	U. S. Ring Traveler Co. 43
Houghton, E. F. & Co. 32	Universal Winding Co. 43
Howard Bros. Mfg. Co. 20	V
Hart Products Corp. 20	Victor Ring Traveler Co. 45
Howard-Hickory Co. 5	Virginia Machinery & Well Co. 42
Hyatt Roller Bearing Co. 5	Vogel, Joseph A. Co. 42
J	W
Jackson, Hill & Co. 45	Washburn Printing Co. 44
Jacobs, E. H. & Co. 23	Watson, L. S. Mfg. Co. 44
Johnson, Oliver & Co. 23	Wellington, Sears & Co. 44
Jordan Mfg. Co. 17	Whitin Machine Works 20
K	Whitinsville Spinning Ring Co. 20
Kaunagraph Co. 11	Williams, J. H. Co. 44
Keefer Starch Co. 39	Wolf, Jacques & Co. 51
Klauder-Weldon Dyeing Machine Co. 40	Woods, T. B. Sons Co. 33
Kenilworth Inn 40	Wilts Veneer Co. 44
	Woodward, Baldwin & Co. 44

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Use Dixon Patent Stirrup Adjusting Saddles, the latest invention in Saddles for Top Rolls of Spinning Machines. Manufacturers of all kinds of Saddles, Stirrups and Levers.

WRITE FOR SAMPLES

Report On Rayon Industry

(Continued from Page 18)

into nitro-cellulose by the action of nitric acid in the Chardonnet process. It is then dissolved in suitable solvents, such as acetone, and after being filtered is spun into threads by forcing through spinnerets. It is then coagulated and wound as in the other processes, the solvents being recovered as far as possible."

Means of Identification.

In his report, Mr. Hamlin lists means of identifying artificial silk, results of microscopic studies with a chart showing cross section of various types of artificial silk fiber, and discussions of twists, hydroscopicity, breaking strengths, and sizes or deniers. Discussing identification, Mr. Hamlin's report says in part:

A.—Burning test—

1. Cotton burns with a flash, with practically no odor and leaves no ash.

2. True silk burns with quite a perceptible odor, similar to burning hair, and leaves a black charred ash. It burns more slowly than cotton.

3. Wool burns more slowly than cotton with a disagreeable odor, also similar to burning hair and leaves a charred brittle ash, usually in the form of a ball.

4. All artificial silk burns quickly like cotton as distinguished from true silk, wool or either animal fibers.

(a). Viscose, nitro-cellulose and Cuprammonium artificial silks all burn like cotton, i. e., with a flash, no odor and leaving no ash.

(b). Acetate artificial silks burn more slowly than other artificial silks and leave a globule of ash, which hardens at once into a brittle substance very similar to sealing wax.

Study of Filaments.

Discussing cross sections of individual filaments, Mr. Hamlin's report says: "The characteristics of the different varieties of artificial silks may also be noted by studying cross sections of the individual filaments."

"It will be noted that the artificial silks made by the Viscose process show a very irregular shaped cross section with more or less serrated edges. The acetate silks, while differing slightly from each other, show a more regular outline than the Viscose silks, the edges being fairly smooth. The nitro-cellulose silk is very similar in cross section to acetate silk II, but shows smoother edges than the former. The Cuprammonium silk has a very regular cross section with smooth edges and approaches more nearly a circle or ellipse in shape than any of the other varieties. Cross sections of true silk have also been shown for purposes of comparison, which has considerably smaller filament than any of the artificial silks."

"The importance of the study of the individual filament lies in comparing the covering power of the silks in question. It is an accepted fact that artificial silks as a class have less covering power than true

silk, i. e., if equal amounts of true silk and artificial silk are used in weaving or knitting two separate pieces of fabric, the true silk will cover more area than the equal amount of artificial silk, provided that conditions are the same in manufacture for both kinds. This is due to the fact that the artificial silk filaments, being very smooth and regular tend to hug together in the fabric, while the silk filaments form a more open thread and thus have greater covering power.

"Covering power depends also upon the size and the surface of the individual filaments composing the yarn, whether they are smooth edged and fairly round or whether they show a broken, irregular outline in cross section. Thus, if the cross sectional areas of two filaments are approximately the same, but one is a smooth, round filament while the other is irregular and jagged in shape, it can very readily be seen that, if a number of the latter filaments are combined together into a yarn they will compose a more open thread than the former, thus giving greater covering power."

"A comparison of the line drawings shows that the Viscose class of artificial silks have this characteristic to a marked degree, each of the three showing a broken, irregular shaped filament. Next in order come acetate II and nitro-cellulose silks, which have this same characteristic but the edges of which are smoother than the Viscose silks. Acetate I and Cuprammonium silks show this characteristic the least, each having very smooth edges and approaching an ellipse or circle in shape."

London Conference on Cotton Standards

A conference of European cotton exchanges and associations and representatives of the United States Department of Agriculture is to be held at London, May 20, to consider proposed modifications in the agreements providing for the use of Universal Cotton Standards in purchasing American cotton. A number of representatives of American cotton exchanges and associations will also attend the conference.

The holding of biennial conferences as at present, will be discussed at the London meeting. The Department of Agriculture, which holds fifty per cent of the voting power at these conferences on Universal Cotton Standards, is willing to accede to this proposed change. Other points deal with the preparation of the original standards at the proposed biennial conferences, and provisions for minor changes in the standards.

The department believes that a satisfactory understanding among all the parties will be reached at the London conference, with the result that the Liverpool Cotton Association and the Manchester Federation of Cotton Spinners' Associations will recall their previously announced decision to withdraw from the world agreement, and will renew the agreement effective with the 1925 cotton crop.

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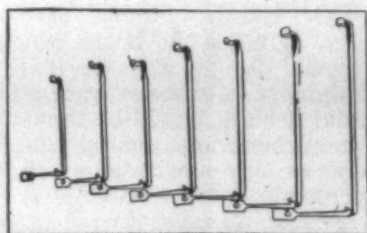


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"Twist"

(Continued from Page 16)

are $155 \times 21 = 3,255$. The resistance to separation is therefore as 3,255:-3,045, or 7 per cent greater in the coarser counts; hence a stronger yarn.

(3) An excessive amount of "twist" weakens the yarn.

This is an interesting phenomenon and suggests that a test illustrated in graph form would be highly instructive, especially to show the limitation of "twist" for maximum strength efficiency. The cause is two-fold, viz., a general contraction of the yarn and compression of its fibres on each other, especially those of the outer covering which, exerting pressure on a more or less elastic core, themselves undergo an expanding strain, only relaxed when disruption occurs. It follows, then, that a yarn which has been twisted above what may be termed the elastic limit is in a state of excessive self-strain, longitudinally and diametrically—a condition aptly illustrated by the thin blade is rigidly tensioned by that form of hand saw in sioned by means of twisting strands of catgut cords.

The following experiment shows the principle of contraction in length and diameter caused by "twist." If we construct a spiral spring of wire 7 inch diameter, containing five coils or turns per inch, the total length of wire contained per inch will be $(7 \text{ inch diameter} \times 3.14 \times 5 \text{ coils}) = 110 \text{ inch}$. If, now, this spring is altered to seven turns per inch, to contain the same length of wire, we find the coils must be reduced to 5 inches diameter viz. $5 \text{ in. diameter} \times 3.14 \times 7 \text{ turns} = 110 \text{ in.}$ to accommodate it, thus showing why increasing the "twist" reduces the diameter of a yarn. In spinning practice, however, this theoretical reduction of yarn diameter is never fully attained, but the fact that it is compressed to some degree explains why "twist" contracts the yarn lengthways. For example, assuming that the spring has been reduced to 6 in. diameter instead of 5 in., then the length of wire per inch of spring will be $(6 \text{ in. diameter} \times 3.14 \times 7 \text{ turns}) = 132 \text{ in.}$ or 132 in.—110 in. = 22 in. more than contained in the 7 in. diameter spring with five coils. In other words, 22 extra inches of wire per inch of spring space have been absorbed or contracted.

If a normal 32's yarn, containing 21 turns per inch, sustains a breaking strain of 54 pounds, the same yarn when slightly overtwisted may collapse at 47 pounds from which it is evident that the 7 pound lost represents a self-exerted strain that is not only a loss of strength efficiency for manufacturing purposes, but also a cause of objectionable kinks in a "hard" yarn devoid of lustre.

Since it has been shown that the resistance to breaking strain of fibres is vastly greater than the cohesive resistance—which is the main factor in yarn strength—some readers might infer that there is no advantage in utilizing a more expensive cotton of stronger staple. This conclusion, however, would be erroneous, because stronger fibres

contain a greater number of natural twists around their own axes, thus presenting a more furrowed surface into which superposed fibres embed, thereby offering still greater resistance to longitudinal separation. The number of these natural "twists" or convolutions varies considerably, but averagely may assumed as 20 to each $\frac{1}{8}$ -in., so that fibres $1\frac{1}{8}$ -in. long contain about 180. These "twists" are not in the same direction; that is, they are clock-wise and anti-clockwise, where the preponderance is about 9 per cent in favor of the latter. This is unfortunate, for all spinners are aware of the advantages of twisting the sliver, rove, and yarn in the same direction through their various processes. If the natural convolution were uni-directional, then, by adjusting the direction of spindle revolutions to suit the conditions, improved spinning might result.

In concluding these few remarks it must be repeated that complicated formula and wearisome tables are unsuitable for the man in the mill. Rather give him facts and simple explanations of subjects of which, hitherto, he has been ignorant or regarded as insignificant.—Textile Recorder.

Hosiery Market in Irish Free State.

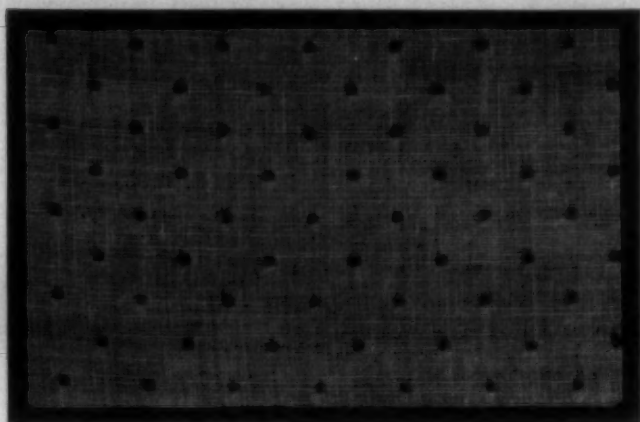
Hosiery imports into the Irish Free State during the first 11 months of 1924 amounted to 707,603 dozen pairs, valued at 681,418 lbs. Of these, 548,499 dozen pairs, worth 544,743 lbs., were listed as coming from England. Statistics, however, do not show country origin, and as practically all foreign hosiery enters this market through England, it is impossible to ascertain the proportion furnished by each country. A considerable amount of cotton, rayon, and silk hosiery is of American origin, and it is felt that with due attention to this market, exporters in the United States should furnish a larger proportion than they do at the present time. (Vice Consul John S. Richardson, Jr., Cobh, March 23.)

German Knit Goods Exported.

The Chemnitz knit-goods industry, for the most part, was less subject to fluctuations during 1924 than any other industry. A large domestic demand made up for the decrease in foreign sales and, although statistics are lacking, it is generally believed that the total knit-goods production in 1924 exceeded that of the preceding year. Exports of cotton hosiery from Germany amounted to 4,928 metric tons (metric ton equals to 2,204.6 lbs.), as compared with 5,849 in 1923. The higher unit prices, however, brought the values up nearer to those of the previous year. Total exports of cotton gloves amounted to 1,618 metric tons, or a decrease of 283 from the 1923 figures. Exports to other countries than the United States, however, showed an increase. Business in the tricot goods was not quite so favorable as in other knit goods. (Consul Christian T. Steger, Dresden, March 17.)

Imported Cotton Cloths

From Survey of United States Tariff Commission.



Sample No. 86—Dotted Swiss.

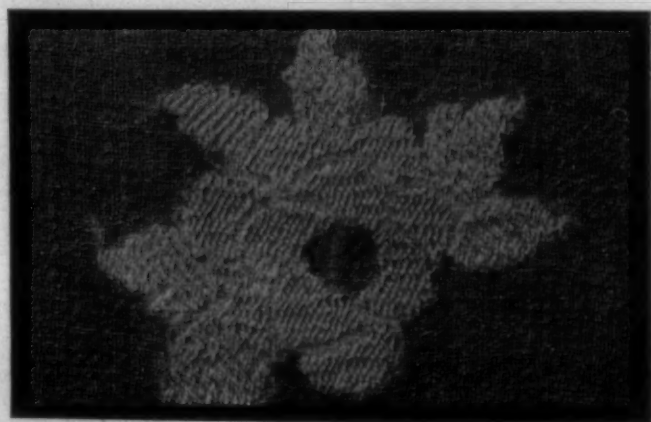
Plain woven ground with swivel dots. Finished width, 51½ inches.

82 ends and 60 picks per square inch, finished.

Warp yarn, 63s, bleached. Filling ground yarn, 90s, bleached. Swivel yarn, 70s (estimated), mercerized and dyed.

Weight, 12.62 linear yards (11.04 square yards) per pound, finished.

Bleached warp. Bleached filling with blue swivel dots. Clipped.



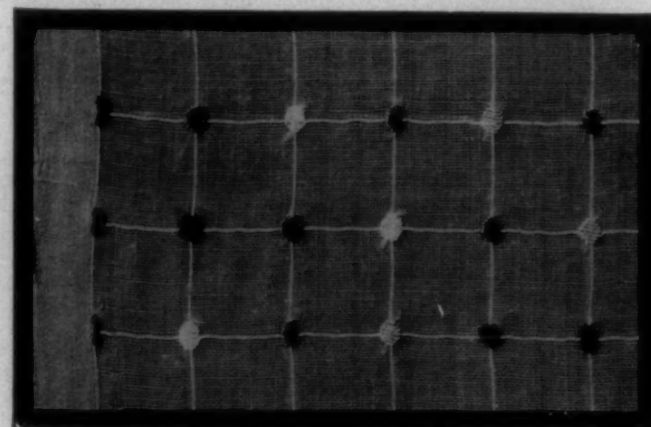
Sample No. 87—Plumetis Crepe.

Plain woven ground with swivel figure. Finished width, 39 inches.

59 ends and 54 picks per square inch, finished.

Warp yarn, 101-2, hard twisted. Filling ground yarn, 93-2, hard twisted. Swivel yarn, 17-2 bleached and mercerized.

Weight, 6.51 linear yards (70.5 square yards) per pound, finished. Clipped and bleached.



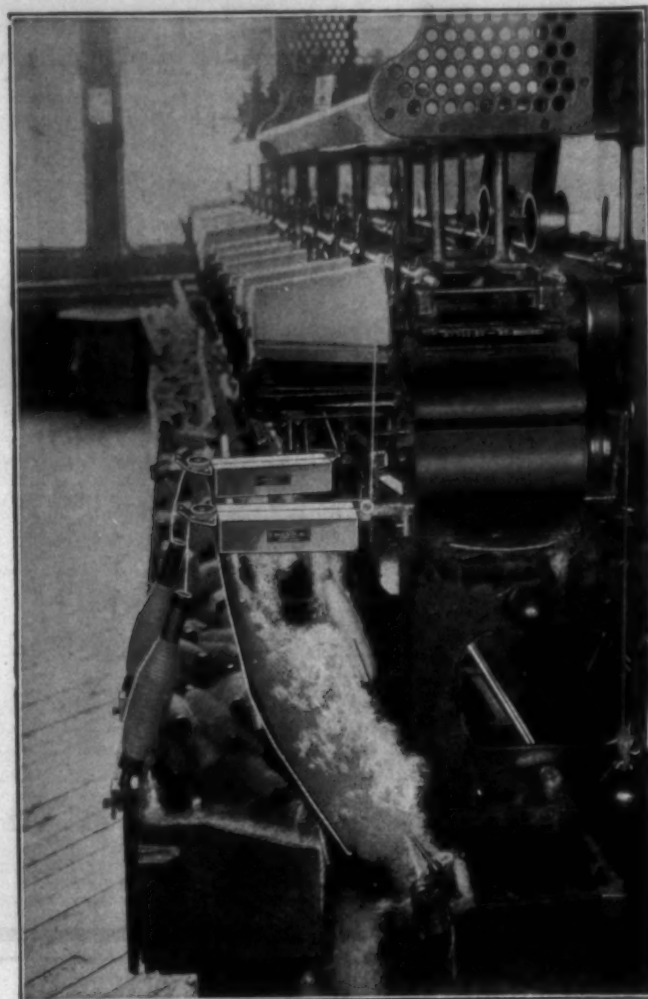
Sample No. 88—Fancy Swivel Voile.

Plain woven ground with swivel dots in six colors. Finished width, 41 inches.

73 ends and 67 picks per square inch, finished.

Warp yarns, 132-2, dyed 132-2, bleached. Filling ground yarn, 136-2 bleached. Swivel yarn, 30-2 (estimated), mercerized and dyed.

Weight, 7.02 linear yards (8.02 square yards) per pound, finished. Blue and white warp. White filling, with red, green, black, violet, yellow and blue swivel threads. Clipped.



Mr. Knitter—Do You Realize Your Loss From Waste?

How often do your knitting machines stop because of slubs—heavy and light spots in the yarn?

Do you know the loss of production from this cause? Do you know the amount in dollars and cents—that is, lost in waste that is thrown under the cutter's table due to cutting out holes through the use of imperfect yarn?

Do you realize the difference in production between running good yarn and bad yarn? With labor high, even the same percentage of waste in manufacturing becomes a heavier charge against your costs. Are you taking the best means of meeting this situation?

The successful men in the production of knitted textiles are those who, under the pressure of high prices, make use of the most effective methods of avoiding waste in manufacturing operations.

A Knitter can cut down waste in his plant and increase his production by using the best grade of yarn—that is, free as possible from imperfections. If a lower grade contains even one more imperfection to the mile of 30/1, it means fourteen more imperfections to the pound—fourteen thousand more imperfections to the thousand pounds; one thousand pounds is a small quantity to the user of yarn. Fourteen more imperfections is a severe handicap in the manufacture of any product.

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Fading of Dyed Materials

(Continued from Page 7)

actions, it is evident that all those valency electrons or atoms which cause absorption may take part in the reactions, providing vibrations of the corresponding frequencies are present in the light to which a color is exposed. The more intense the light corresponding to a certain part of the spectrum, that is, the greater the amplitude of the vibration, the more would it be expected to influence the reaction undergone by that portion of the molecule which vibrates at the corresponding period. It is quite possible that light of less than a certain amplitude would fail to upset the molecule, and would then cause no chemical action. The fact that only those rays which are absorbed can produce chemical action shows that it is the disturbance of the electrons by light which brings about the chemical reactions."

These theories which we have put forward, showing that the light itself may exert an effect, do not exhaust the considerations of the influence of the light itself in the production of fading phenomena, and a little more of the aspect of this side of the question should perhaps be dealt with before we pass on to other phases of this important question of the fading of colors and dyed shades.—Reprinted in Dyestuffs from the Yorkshire Argus, Bradford, Eng.

World Cotton Production in 1924

The world cotton crop harvested in the year beginning August 1, 1924 is now estimated by the Department of Agriculture on the basis of the latest available data to be approximately 24,700,000 bales of 478 pounds, as compared with 19,590,000 bales for the year beginning August 1, 1923.

This is a revision of a statement on the world crop issued in February. The estimate includes statistics of cotton production, exclusive of linters, in the United States by the Bureau of the Census from ginners' reports; the latest Government estimate of cotton production in India; the Chinese Cotton Mill Owners' Association estimate of cotton production in that part of China producing the commercial crop; and the department's estimate of production in Egypt based upon receipts at Alexandria. The estimates for China and India include some cotton not consumed in mills.

The revised 1924 estimates for the leading producing countries as compared with production in 1923 are as follows:

	1924 Bales	1923 Bales
United States	13,619,000	10,139,670
India	5,069,000	4,332,000
Egypt	1,540,000	1,353,000
Mexico	281,000	175,000

Preliminary estimates of the world area planted to cotton for the crop year beginning in 1924 amount to 79,100,000 acres as compared with 71,200,000 acres in the preceding year. No estimate or forecast of

acreage for the 1925 crop has been made.

The final estimate for the 1924 crop in the United States, which will be made on June 2 this year on the basis of the Census report of March 20, will be somewhat larger than the preliminary estimates.

Egyptian Crop Shows Increase.

Receipts of cotton at Alexandria from August 1, 1924, up to April 15, 1925, totaled 1,453,000 bales of 478 pounds, as compared with 1,275,000 bales for the same period last year, and 1,318,000 bales in 1922-23. Last year about 52,000 bales were received from April 15 to July 29, and the year before 67,000,000 bales. The carry-over into the present year was smaller than usual, amounting to only about 54,000 bales according to an official Egyptian estimate.

Allowing for receipts into Alexandria for the remainder of the present cotton year amounting to about 60,000 bales and assuming a carry-over, 25,000 bales larger than at the beginning of the current year, a crop of at least 1,540,000 bales for 1924 is indicated.

While not a record crop, the harvest as thus indicated in the largest since 1913 when production was officially estimated at 1,588,000 bales of 478 pounds. The crops for 1912 and 1910 were also larger amounting to 1,554,000 and 1,555,000 bales respectively, and the 1911 crop of 1,530,000 bales was nearly as large.

Weaving Viscose Yarns

(Continued from Page 14)

portionately increased. When fitting the reed in the loom the bottom balk should be placed below the "shuttle race," so as to prevent the viscose warp threads getting too near the balk, the idea being to keep the viscose warp threads in contact with only the most flexible part of the reed, which is the centre. The shed should be of reasonable size to allow the shuttle to pass freely through it without damaging or breaking any portion of the warp. In order to provide a "cushion" for the viscose warp threads, and thus prevent them from being bruised by the shuttle, it will be found useful to cover the "running board" with a thin strip of felt. If the viscose weft is being cut, chafed or soiled in the shuttle boxes, these difficulties may be prevented by placing a strip of swansdown on the front sides of the shuttle boxes. Shuttles for viscose weft are kept in condition by a small dressing of linseed oil when reshuttling.

When "brushing" a shuttle for weaving viscose put as much "brush" in the shuttle eye as will keep the viscose thread at even tension as it draws off the end of the spool. It is important, however, that the "brushing" should not be crammed too tight, or too much tension will be put on the thread, and stripped or tight picks in the cloth will result. The shuttle eye is usually "brushed" with soft worsted. When "furring" a shuttle for weaving viscose best fur for this purpose has been found to be rabbit, owing to its soft texture and comparative cheapness. Both sides of the shuttle should be furred from

end to end, as shown in the illustration, so as to allow the fur to lie on the weft, not only for the full length of the spool, but also up to the shuttle eye, to prevent the viscose from "ringing off" and causing slack picks; also to prevent the thread from springing out of the top of the shuttle, which is one of the main causes of "box marking" and "soiled shoot." After placing fur in a shuttle care should be taken to examine it to see that no hard glue is left on the shuttle sides, as this will cause broken weft, strained weft, or "bowing in."—Manchester Guardian.

World Cotton Trade Shifts

The extent to which the war and the abnormal post war period of expansion effected the normal world cotton requirements, and brought about a new apportionment in distribution is striking brought out in a report on "International Trade in Cotton" released today by the Department of Commerce.

The United Kingdom and Continental Europe, the report points out, are consuming less cotton than before the war, whereas the United States, Japan and India are consuming more.

The consumption of cotton in the United Kingdom averaged 2,945,000 bales annually during the four-year period 1919-20 to 1922-23 as compared with an annual consumption of 4,049,000 bales for the four years immediately preceding the war. In continental Europe the most important cotton consuming countries before the war were, Germany, Russia, France, Italy and Austria Hungary. Continental demand has dropped from a pre-war average of 7,242,000 bales to an average of 4,696,000 bales for the four year period 1919-23.

Covering the same periods the report shows that consumption in the United States increased from 5,409,000 bales; in Japan, from 1,163,000 to 2,092,000; and in India, from 1,764,000 to 1,817,000.

Expressed in terms of percentage the United Kingdom and continental Europe decreased 27 per cent and 35 per cent between pre-war and post-war years, whereas the United States increased 9 per cent; Japan, 80 per cent and India, 3 per cent.

There is a direct relation, the report points out, between the lower consumption in Europe and the higher consumption in other parts of the world. In the first place, during the war the cotton manufacturing industries of European countries were largely diverted to war purposes and there was little opportunity to cultivate oversea markets, upon which the cotton industries of most of the European countries place particular emphasis. A second reason for decreased consumption in Europe, the report states, in the increase in manufacturing in other parts of the world, which came about partly as a result of the inability of European countries, particularly the United Kingdom, to supply the usual amount of cotton goods. Japan, in particular, was able to take advantage of the opportunity to expand its cotton industry. Even before the war there was a

distinct tendency for cotton-producing countries, such as the United States, China, India, and Brazil, to increase their manufacture of cotton.

The proportion of cotton manufacturers going to export trade in the three most important manufacturing countries—the United States, the United Kingdom, and Japan—is of significant, since it shows the relative dependence of the cotton industries of these countries upon foreign markets. Approximately 8 per cent of the cotton goods produced in the United States has been exported in recent years, as compared with about 5.5 per cent before the war. Thus, it is evident that while the export trade has been increasing the cotton manufacturers of this country still rely largely upon the great home market. In the United Kingdom about 80 per cent of the production of cotton goods is exported in normal times. Before the war Japan exported in the neighborhood of 50 per cent of its production of cotton goods, including yarn. It is well to note at this point the significant movement of Japanese capital into cotton mills in China. Although this will have a tendency to decrease to some extent the exports of cotton goods from Japan to China, there are certain obvious advantages to the Japanese manufacturer, such as cheap labor supply and proximity to the raw materials and to the large markets for finished goods.

The complete report, "International Trade in Cotton"—Trade Promotion Series No. 13—covers 100 pages and gives complete and detailed information on world cotton output and trade. Production and consumption data for countries are included and the trends of international trade in areas now yielding a surplus are outlined. The possibilities of cotton production in new areas are thoroughly discussed and statistics are included from 1909 up to and including 1924.

Copies can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., or any district office of the Bureau of Foreign and Domestic Commerce. The price is 15 cents.

German Rayon Production and Trade Reported.

The rayon industry is the only branch of the textile trades in Germany in which all plants are working full time. German production in 1924 is estimated at 10,760 metric tons (metric ton equals to 2,204.6 pounds). Exports of rayon from Germany during 1924 amounted to 2,348 metric tons, a 50 per cent increase over the preceding year, while imports totaled 1,080 metric tons, or approximately four times the amount imported in 1923. The United States is the chief foreign market for this German product. In addition to the more common uses of rayon in the weaving and knitting industries, German manufacturers are using this material in the production of garters and suspenders, gloves, hats, white and colored wigs, imitation furs and leathers, and artificial flowers.

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GLYCERINE	sold on	GLYCERINE	GLYCERINE
GLYCERINE	GUARANTEED ANALYSIS	GLYCERINE	GLYCERINE
GLYCERINE	and	GLYCERINE	GLYCERINE
GLYCERINE	GLYCERINE BASE WARP DRESSINGS,	GLYCERINE	GLYCERINE
GLYCERINE	PROPORTIONED TO SUIT THE	GLYCERINE	GLYCERINE
GLYCERINE	INDIVIDUAL REQUIREMENTS	GLYCERINE	GLYCERINE
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Strong Influences Found Conflicting in Cotton Industry

By Alston H. Garside, Director Cotton Statistical Service, the Merchants National Bank of Boston.

Boston, April 30.—The cotton market has been subjected to strong conflicting influences in recent weeks. On the one hand, there has been the fact that world stocks of cotton, while larger than at this time last year, are below average, and since world consumption is running relatively heavy, the prospects are that the carryover next July will be subnormal. On the other, there has been the fact that many mills, both in this country and England, have been unable to sell their current production at a profit, and in this country mill activity has been declining.

As to the new crop, there has been the promise of a record acreage, liberal use of fertilizer, light weevil infestation over most of the belt, and the generally favorable start of the crop, particularly in the central and eastern districts; but with all this, there has been the extremely dry condition of the subsoil in Texas and Oklahoma, threatening disaster in those States in the event of a hot dry summer.

While there has been an underlying conservative confidence in the outlook for general business, both at home and abroad, the excessive optimism of the past winter has been dissipated by the crash in grains and stocks, the reaction of commodity prices in general and the moderate slowing down of various industries in this country.

Low State of Stocks.

The low state of stocks of cotton is indicated by the following: The amount of cotton available to come into sight during the rest of this season is, at the time this is written, approximately 1,334,000 bales, against an average of 2,969,000 at this time in the past four years. The amount available for spinners' takings is 4,645,000, against an average of 5,986,000 in the past four years. With domestic consumption of lint and linters apparently heading toward about 6,600,000 and exports 8,000,000 and exports 8,000,000 or 8,250,000, it appears that all of the approximately 14,600,000 bales produced last year will be spun at home or shipped abroad by next July and, accordingly, end-season stocks in this country will be approximately the same as the extremely small stocks of a year ago.

The world carryover of American cotton will probably not be as limited as last year—present indications are that it may be about 750,000 bales larger—but, even so, it will probably not be much over 3,500,000, exclusive of linters, against an average of 5,435,000 in the past four years.

State of Cloth Trade.

The unsatisfactory state of the yarn and cloth trade in this country and England has undoubtedly been one of the strongest depressing factors in the raw cotton market. Both

New York and Manchester have reported good business only at irregular intervals and in the interim the volume of demand and sales has been below the output of the mills. The hopes entertained early in the year that buying would broaden out and be so well maintained that manufacturers would be able to build up a sizable volume of forward business and command remunerative prices, have not been realized. Buyers generally have adhered to their long continued policy of hand-to-mouth operations, the amount of forward business on mill books has been held down to limited proportions in most divisions of narrow. The situation as to relative prices for raw cotton and manufactured goods is very much better than it would have incurred disastrous losses by simultaneously selling goods and buying cotton to cover such sales, but profits are today decidedly subnormal, even to average Southern mills.

Sub-Soil Moisture.

If it were not for the lack of subsoil moisture in the Southwest the outlook for the new cotton would probably be as good as the country has ever seen, according to conditions at the time this article is written. It is thought in well informed quarters that the acreage this year may be 3 or 4 per cent larger than last year.

If so, it would be around 42,750,000 acres, against 41,390,000 last year, 38,701,000 two years ago, and 34,016,000 three years ago.

An average of 42,750,000 would be the largest on record. It appears probable that more fertilizer will be used this year than last year, as Mr. Hester reports fertilizer sales in eight Southern States in eight months ended March 31 as 2,406,137 tons, against 2,260,208 in the same period last season. The Federal Government's report on boll weevil emergence indicated normal survival in southern Louisiana, Georgia and Carolina, but light survival elsewhere, and the State entomologist of Oklahoma could not find a single surviving weevil at any of the testing stations in that State. But Texas, having had only 8.42 inches of rain in the eight months from August 1 to March 31, against a normal of 18.20 and an actual of 26.66 in the same subsoil last season, entirely lacks that subsoil moisture which will be necessary for the survival of the plant if the summer is hot and dry—and Texas last year had 16,198,000 out of the 40,115,000 acres planted to cotton. Conditions are similar in Oklahoma, which had 3,791,000 acres in cotton last year.

Helped by Other Markets.

It would appear that the movement of the grain and stock markets, general commodity prices and general business conditions have contributed greatly to the relative stability of the cotton market in recent months. During the closing months of last year and the opening months of this year the rising prices for grains, stocks and commodities in general and the upswing in business undoubtedly did much in the cotton market to neutralize the effect of the large American crop and the increased production abroad.

On the other hand, during the past two months the collapse in grains and stocks, the moderate recession in commodity prices in general and the reaction in business have unquestionably done much to counteract the strengthening statistical situation of cotton and accumulating evidence that the world must have another large crop to satisfy world requirements at the current price level.

It is believed in many quarters that the recent reactions in the stocks, commodities and general business in the near future, but that these unfavorable developments represent chiefly the deflation of excessive optimism.

New Crop Developments.

If this proves to be the fact the readjustment of the other markets to a more sound relation with the actual business situation removes one of the adverse influences which has threatened the cotton market all winter and to that extent leaves it in a stronger position. Under such conditions, although there may be some further contraction in mill operations in this country in the immediate future, a relatively large world consumption of cotton would appear to be in prospect and the price of the staple would depend largely on new crop developments.

Analysis of Cotton Situation

(Continued from Page 12)

planting of Full Rough and will confine themselves to other varieties. The main reason for abandoning Full Rough is three-fold: First, the small yield per fanegada, which is only 12 to 16 q.q. compared with the other varieties, yielding from 25 to 35 q.q. The second reason is that Full Rough is a one-year crop, maturing in November-December-January, thus depending on water during these months, which according to the writer's informants is a time when water is most difficult to procure; and thirdly, many insects and pests of the most damaging kind have put in an appearance in the Northern districts and have thus destroyed a great many plants and reduced the yield, besides making it very expensive for the planters. The most damaging and deathly pest is the "Piojo Blanco," which is a white bug and which is particularly attacking Full Rough and Egipto varieties. It attacks the nourishment of the plant, takes the sap away and kills the plant. The second one is the "Arrebiatado" (the stainer), which stains the cotton and kills the not well matured bolls. The third one is the "Hielos," or frost, which destroys the squares, and besides, one still has to contend with the "Gusano," a caterpillar, which is also attacking Tanguis and Mitafi in no small degree. As a result of these pests the Full Rough variety will practically disappear during the coming season and will be replaced by Pima, Tanguis, Mitafi, and Egipto (smooth).

"The only Full Rough cotton will remain in the Sechura Valley, where Full Rough is still cultivated in very small quantities by small farmers. It is very difficult to esti-

mate the Full Rough production but it is safe to assume that its total quantity will be negligible; therefore, we suggest to those spinners who have been using Full Rough cotton to be prepared to use a substitute, because the original Full Rough will no longer be available in large quantities. As a best substitute we recommend Tanguis Rough, our type Burr, which will only be available in July or August and finally.

Moderate Rough.

"This cotton is grown particularly in Iquitos, along the Amazon River, and we consider it the best substitute at the present time. Business in moderate Rough is quiet, because there are still several small lots of Full Rough available, which take care of the immediate demand. But once these stocks have been disposed of, there is no doubt that moderate Rough will take the place of Full Rough cotton, or else spinners will have to seek an entirely new variety as a substitute. We quote moderate Rough cotton, our type Luisa at 33 cents per pound, and we think it is very attractive compared to Full Rough at 42 cents f.o.b. cars New York fumigated.

China.

"Business in China cotton has been comparatively small this year, as a result of the high premium demanded by China shippers. China cotton is still selling at 100 points on futures, whereas in normal years it has sold 200 to 300 points under American futures; naturally, the demand cannot be as great, due to the high premium. We quote for the best selections of China cotton, known as "best quality Tientsin No. 1," 25 cents f.o.b. cars fumigated. There is no indication that China cotton will sell cheaper, as the supply is small and the demand quite active, particularly on the part of Japanese interests.

India.

"Business is very quiet in this variety. Several transactions have been made lately at 22½ cents to 23 cents for India Smooth and 24½ cents for India Rough. Spinners only buy from hand to mouth, as they anticipate a decline in these varieties.

"Under these circumstances it seems reasonable, equitable and fair that short cotton should sell at 22 cents per pound on the plantation and long staple at 30 cents. Particularly will these prices prove attractive on the basis of, say, 13,000,000 bales, because a large production means lower costs and prosperity all around."

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Chicago Cotton Market

Chicago is to be a permanent cotton market.

The pioneering period of five months, which ended today, has proved the project to be a commercial success, according to President Frank L. Carey of the Chicago Board of Trade.

"Steady growth of the cotton futures market since its creation December 1, said President Carey, 'has been ample proof of its importance in the world of commerce. All the obstacles of a new market have been met and surmounted. And today there is every assurance that Chicago is to be a permanent cotton market.'

"Future contracts provide for delivery of cotton at Houston and Galveston, the largest exporting point in the world. Delivery on these contracts in each of the active trading months has been of good volume. The fact has been clearly established during the five months that Chicago futures are readily convertible into physical cotton.

"Volume of trading has shown a slow but steady increase. From the Southwest, which has supported the market from the start and which was instrumental in its creation, there is an increasing amount of hedging business. Incidentally, no single development in recent years has so closely allied the Southwest and the Chicago district.

"When the new market was established there was some apprehension that business might be diverted to this market to the disadvantage of the older exchanges at New York and New Orleans. Such fears were unfounded. Just as New York felt no ill effects from the establishment of the market at New Orleans, these older markets have lost no business as a result of the Chicago market's operation. But on the contrary the older markets probably have benefited by the competition. It is a curious fact that new markets increase the amount of business for all markets, for they develop new interest in a commodity. They also tend to stabilize prices. Happily the new market has had the support and assistance of the older markets.

"It has been clearly demonstrated that the cotton trade, particularly of the Southwest, needed another future market where the business in spot cotton for export and domestic consumption could be hedged by the purchase and sale of contracts adequately protected by a deliverable reserve stock. This need has been fulfilled.

"It is the confident belief that the plan of trading at Chicago with delivery at Houston and Galveston will develop into one of the major influences in the marketing of the American cotton crop."

J. W. Garrow, president of the Texas Cotton Association, declared that the Chicago cotton market "has seemingly answered in a rather unexpected way the question of Southern deliveries, the advisability of which we have discussed for many years and upon which the members of the Texas Cotton Association have for as many years differed.

"It would seem that the establishment of futures trading in Chicago should be viewed with utmost satisfaction. We are in no wise deprived of any of the uses and benefits of the New York and New Orleans contracts. But we have the added privilege of hedging our operations in a market the location of whose contracts is identical with the points of concentration of the bulk of our cotton and in the path of the direct movement of all western cotton to foreign markets.

"It has now been functioning long enough for it to have become recognized as an established and dependable addition to the marketing machinery of our great product."

Finished Goods Output in March

Washington, D. C.—Announcement was made at the division of research and statistics, Federal Trade Board, that the National Association of Finishers of Cotton Fabrics, at the request of the Federal Trade Board, had arranged for a monthly survey within the industry.

Results of the first month's inquiries covering production and shipments of finished cotton fabrics for March, 1925, as compared with February, 1925, were made public today along with the statement.

An explanatory note points out that many plants were unable to give details under the respective headings of "white goods," "dyed goods" and "printed goods," and that as a result of their reporting totals only, the figures did not represent the total output in these subdivisions, but were correct as grand totals for the various districts.

According to the statement, there was a total of 38,597,206 yards of white goods finished during March, as compared with 33,819,182 yards during February. Dyed goods finished during March totaled 33,914,845 yards, as compared with 30,483,692 yards for February, and printed goods totaled 11,700,233 yards for March, as compared with 8,928,079 yards for February.

Accompanying the data was a statement from the secretary of the association, which reads as follows:

"The accompanying figures are compiled from statistics furnished by 28 out of 51 members of this association.

"It is probably fair to state that in the absence of having specific detail at hand, the figures given for the various classes of work would cover approximately the following percentages of the entire industry: White goods, 70 per cent; dyed goods, 55 per cent and printed goods, 25 per cent.

"The figures given represent reports from exactly the same finishers for the two months, both for the totals and for the subdivisions, and therefore are strictly comparable.

"It should be noted that there is not included in this tabulation a record covering District No. 6, as this district took in the report of one member only, who has discontinued filing his report."

Clark's Cotton Records

Statistics for Week Ending May 2, 1925.

	1925.	1924.	1923.
Visible supply American	2,910,000	1,803,000	1,683,000
Into sight for week	103,000	105,000	87,000
Mill takings during week	295,000	183,000	161,000
Mill takings since Aug. 1st	11,956,000	9,400,000	10,476,000
Exports during week	83,000	108,000	37,000
Exports since Aug. 1st	7,312,000	4,915,000	4,102,000

Government Reports.

	1925.	1924.	1923.
Acreage this season	40,403,000	38,709,000	34,016,000
Indicated crop July 25	12,144,000	11,412,000	11,065,000
Indicated crop middle of July	11,934,000		
Indicated crop end of July	12,351,000	11,516,000	11,449,000
Indicated crop middle of Aug.	12,956,000		
Indicated crop end of Aug.	12,787,000	10,788,000	10,575,000
Indicated crop middle of Sept.	12,596,000		
Indicated crop end of Sept.	12,499,000	11,015,000	10,135,000
Indicated crop middle of Oct.	12,675,000		
Indicated crop end of Oct.	12,816,000		
Indicated crop middle of Nov.	12,992,000		
Indicated crop end of Nov.	13,153,000		
Ginned to Oct. 1st	4,527,671		
Ginned to Oct. 18th	7,600,826	6,415,145	6,078,321
Ginned to Nov. 14th	11,163,400		
Ginned to Dec. 1st	12,225,000		
Ginned to Jan. 16, 1925	13,308,037		
Ginned to March 20 (final report)	13,618,751		
Carryover beginning cotton year	2,319,000	2,573,000	4,879,000

Cotton Exports.

Following is a comparison of the exports by months in running bales, including linters:

	1924-25.	1923-24.	1922-23.
August	277,641	244,415	272,808
September	737,010	689,435	378,390
October	947,556	781,722	798,664
November	1,306,000	770,002	858,337
December	1,076,000	845,581	607,853
January, 1925	1,076,000	546,253	473,436
February	818,838	482,146	359,657
March	734,697	332,168	318,210
April		320,774	259,984
May		326,357	160,368
June		230,979	214,851
July		211,633	171,469
		5,772,000	4,864,027

American Consumption of All Kinds of Cotton, Excluding Linters.

(In running bales, 000s omitted.)

	1924-25		1923-24		1922-24	
	Per Month	Per Season	Per Month	Per Season	Per Month	Per Season
August	357	357	492	492	526	526
September	435	793	484	975	494	1,020
October	530	1,322	542	1,517	534	1,554
November	492	1,814	532	2,049	579	2,133
December	533	2,347	462	2,510	529	2,663
January 3	589	2,924	577	3,088	610	3,273
February, 1925	550	3,324	508	3,595	567	3,840
March	582	3,874	484	4,079	624	4,464
April			480	4,559	577	5,041
May			414	4,991	621	5,661
June			350	5,341	542	6,203
July			347	5,688	463	6,666

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Print Cloths, Twills, Pajama Checks,
Sheetings, Combed Peeler Yarns

Cotton Goods

New York.—The cotton goods market were again quiet during the past week. Wide print cloths were fairly active and prices held steady, while sheetings, drills and many of the carded convertibles showed a price decline of from an eighth to a quarter of a cent, sales being small. There was a somewhat better inquiry for wide goods for manufacturing purposes.

The new prices named on percales and prints were on the same basis of the previous season and a moderate amount of business was put through for delivery in June and July.

Prices on print cloths held fairly well, but on other unfinished lines were weak and irregular. There was a further decline in sheetings and three-yard goods were reported available as low as 13 cents. Sales of 6.15 sheetings were reported an eighth cent lower than previous low prices.

In the fine goods sections, the only sales reported were of small lots for quick shipment. There was little trading through the list and prices were regarded as normal. Voiles were off again. Combed broadcloths in second hands were lower and some easing in the price of carded broadcloths was noted.

There was little activity in the tire fabric market. This is a normally dull season in the trade and devoting itself to inventories. Most of the tire plants continue on full schedule. Present business in cotton duck is slow, small orders only figuring in the trading.

There was a fairly good volume of business in cotton and silk mixtures. Small lots were ordered frequently and a few small contracts placed. Although crepes were not as active as during the past several weeks, prices remained unchanged.

The heavy cotton goods markets have not been especially buoyant, but there are still many unfilled orders on the books, and the business coming forward enables mills to keep moving surprisingly well. Duck, auto fabrics, goods for rubberizing, khakis, etc., are priced much too close to be profitable in a satisfactory way; nevertheless, there is very much less talk of curtailment in this quarter than existed last year at this time.

Percales sales are stated to be running relatively larger than ginghams in proportion to current producing facilities. In both cases the highly styled and novelty goods are moving best. Both are suffering somewhat from the volume of cotton goods and mixed specialties on the markets designed to meet the

call for novelty and style. Handlers of these staples say they expect to see the goods continue in steady growing demand as summer retailing makes progress. Most of the narrow print business is being done for export, and low counts are being sold best.

Though the week's inquiry in the Fall River market was for a larger number of constructions in print cloths as well as for both sateens and twills, orders were so small that the total sales fell short of 40,000 pieces. As a whole the market has been fully as quiet as at any time during the past month, the buying having been practically of the piecemeal sort for spot or nearby delivery.

John V. Farwell Company, Chicago, says in their weekly review of trade: "Wholesale dry goods business manifests good gain over corresponding week of last year. The gain in volume of road orders in comparison with number of road orders received shows that retailers feel more freedom in making commitments and getting away, from hand-to-mouth buying. Buyers have been in the market in much larger numbers than during corresponding month of last year. Collections continue to improve."

Cotton goods prices were as follows:

Print cloths, 28-in., 64x64s	7 1/4
Print cloths, 27-in., 64x64s	6 1/2
Gray g'ds., 38 1/2-in., 64x64s	10
Gray goods, 39-in., 68x72s	11 1/2
Gray goods, 39-in., 80x80	13
Brown sheetings, 3-yard...	14 1/2
Brown sheetings, 4-yard...	11 1/2
Brown sheetings, stand....	15 1/2
Ticking, 8-ounce	26
Denims	26
Staple ginghams, 27-in., ..	11 1/2
Dress ginghams	18 1/2 to 21
Standard prints	9 1/2

English Firm Desires Agency for American Hosiery and Piece Goods

A large wholesale firm in London desires to represent American exporters dealing in piece goods and rayon hosiery, according to a report received from Assistant Trade Commissioner C. Grant Isaacs. A member of this firm will be in the United States about the first of May and may be communicated with through the New York district office of the Bureau of Foreign and Domestic Commerce. Further information regarding this firm will be made available at the New York district office or the Textile Division, Washington. Refer to file No. 26691.

Southeastern Selling Agency

LESSER-GOLDMAN COTTON COMPANY

OF ST. LOUIS, MO.

P. H. PARTRIDGE, Agent, Charlotte, N. C.

Extra staples, and good 1 1-16 and 1 1/2 cotton from Arkansas, Oklahoma, and Texas, and Memphis territory.

The Yarn Market

Philadelphia, Pa.—There was no improvement in the demand for cotton yarns last week. Prices showed a further reduction of from one-half to a full cent. Competition among dealers was very keen and some sales were reported at prices a cent lower than quoted prices. Buyers showed a willingness to trade for their immediate needs on a very low price basis, but were not interested in contracts for future delivery. The price situation as a whole is very irregular, due to the bargain hunting tactics of buyers and the very small volume of business going through. Many counts of yarn were reported available at very cheap prices and buyers were not interested except where prices were considered of the bargain nature.

There was no change in the quoted prices on combed and mercerized yarns, but some offerings from stock were lower. Combed yarns, however, continued relatively much firmer and higher than the carder numbers. Mills on combed yarns are reported as well under for the next several weeks and their position is regarded as considerably better than that of carded yarn spinners.

Carded yarn sales, both weaving and knitting, were limited during the week to filling in supplies. Reports indicate that stocks of yarns are still low and that curtailment is increasing.

Yarn prices were published in this market as follows:

Southern Two-Ply Chain Warps.			
2-ply 8s	39 a	2-ply 26s	46 a
2-ply 10s	39½a	2-ply 30s	46½a47
2-ply 16s	41 a	2-ply 40s	60 a62
2-ply 20s	42½a	2-ply 50s	68 a
2-ply 24s	45 a45½		
Southern Two-Ply Skeins.			
8s	38 a	40s	57 a58
10s to 12s	39 a	40s ex.	60 a62
14s	41 a	50s	67 a68
16s	42 a	60s	74 a76
120s	42½a	Tinged Carpet	
24s	45 a	3 and 4-ply 35½a36	
26s	46 a	White Carpet	
30s	36½a37	3 and 4-ply 37 a37½	
36s	56 a		
Part Waste Insulated Yarn.			
6s, 1-ply	36 a	12s, 2-ply	37 a
8s, 2, 3 and		20s, 2-ply	41 a
4-ply	35½a	26s, 2-ply	45 a
10s, 1-ply and		30s, 2-ply	46 a
3-ply	36½a37		
Duck Yarns.			
3, 4 and 5-ply		3, 4 and 5-ply	
8s	38 a39	16s	42 a43
10s	39 a40	20s	42½a43½
12s	40 a41		
Southern Single Chain Warps.			
10s	39 a	24s	45 a
12s	40 a	26s	46 a
14s	41 a	30s	49 a
16s	41 a	46s	60 a
20s	42½a		
Southern Single Skeins.			
10s	39 a	24s	44 a
12s	39 a	26s	45 a
14s	40 a	30s	47½a48
16s	40 a		

Southern Frame Cones.			
8s	37½a	22s	41 a
10s	38 a	24s	42½a
12s	38½a	26s	43 a
14s	39 a	28s	44 a45
16s	39½a	30s	45 a
18s	40 a	30s tying in	45 a
20s	40 a	40s	56½a57½
Southern Combed Peeler Skeins, Etc.			
2-ply 16s	55 a60	2-ply 50s	85 a
2-ply 20s	58 a62	2-ply 60s	90 a
2-ply 30s	65 a67	2-ply 70s	95 a1 00
2-ply 36s	68 a75	2-ply 80s	1 05a1 10
2-ply 40s	75 a80		
Southern Combed Peeler Cones.			
10s	50 a	30s	60 a
12s	51 a	32s	62 a
14s	52 a	34s	64 a
16s	52½a	36s	65 a
18s	53 a	38s	68 a
20s	53½a	40s	70 a
22s	54 a	50s	75 a
24s	54½a	60s	85 a
26s	55 a	70s	95 a
28s	57 a	80s	1 05a
Eastern Carded Peeler Thread-Twist Skeins.			
20s, 2-ply	52 a	36s, 2-ply	64 a
22s, 2-ply	53 a	40s, 2-ply	66 a
24s, 2-ply	55 a	45s, 2-ply	69 a
30s, 2-ply	58 a	50s, 2-up	74 a
Eastern Carded Cones.			
10s	47 a	22s	53 a
12s	48 a	26s	55 a
14s	49 a	28s	57 a
20s	52 a	30s	59 a

Yarn Spinners' Bulletin

The weekly bulletin of the Southern Spinners Association says:

"The yarn market remains quiet, with but little demand, business being confined to small spot lots for immediate delivery. In spite of the fact that consumers of yarn are not active in purchasing, and business for several weeks past has been apathetic, yarn prices remain firm. Purchasers are having to shop the market carefully to secure their requirements.

"In spite of rumors to the effect that spinners are accumulating stocks there has been no evidence of weakness of prices or offers of delivery to substantiate this report. On the contrary there is every evidence of increased curtailment in spinners' operations.

"With the slack demand and low level of prices the yarn market shows but little movement from week to week."

Unemployment in German Textile Industries Decreases

Unemployment statistics of the German Textile Workers' Association, which usually furnish the most reliable indication of the labor situation in the textile industry, show that the improvement which began in August, 1924, only 46.9 per cent of the 462,000 textile workers included in this organization were fully employed. Figures for February, 1925, show an increase to 84.3 per cent.

CATLIN & COMPANY

NEW YORK BOSTON PHILADELPHIA CHICAGO

Commission Merchants

Cotton Cloth and Cotton Yarn

SOUTHERN OFFICE

910-11 Commercial Bank Bldg. CHARLOTTE, N. C.

Gum Tragasol Agglutinates

the fibres of the yarn—cotton, woolen or worsted which—ever it may be—and prevents waste of good materials by eliminating flyings.

Gum Tragasol is Cheaper

than either wool or cotton, therefore, its use is a distinct economy.

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MILLS DESIRING DIRECT REPRESENTATION AND HAVE THEIR PRODUCT SOLD UNDER THEIR OWN MILL NAME WILL PLEASE COMMUNICATE.



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If you use ring travelers of any description for spinning or twisting yarns and threads, we would be glad to furnish you, free, with a sufficient quantity of our Victor travelers to enable you to make a thorough competitive test. It will cost you only the price of a post card (1c) to let us know your need. Send for them now.

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Audrey Spinning Mills, Inc., Weldon, N. C.
White Hall Yarn Mills, White Hall, Ga.
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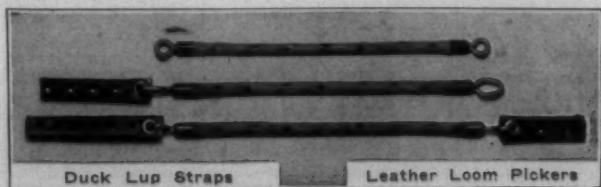
WENTWORTH Double Duty Travelers

Last Longer, Make Stronger Yarn.
Run Clear, Preserve the SPINNING RING. The greatest improvement entering the spinning room since the advent of the HIGH SPEED SPINDLE.

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Duck Loo Straps

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Want Department

For Sale

One 70" Buffalo Exhauster, 30" outlet. One lot of machine shop and wood working equipment. One lot hangers, ball bearings, couplings, shafting, etc. All practically new. Bargain prices for quick sale. Shambow Shuttle Company, Greenville, S. C.

\$25.00 REWARD



For the information leading to the whereabouts of Edna Moss and Scott Hendricks. Left Kings Mountain, N. C., April 18, in Ford coup. Motor No. 8776328, 1924 model, equipped with drum head lights, step plates on running board, the property of the Kings Mountain Motor Co. Edna Moss is nineteen years old, five feet few inches tall, weight one hundred and fifteen to twenty-five pounds, extra fair skin, blonde, bobbed curly hair, grayish blue eyes. I call special attention to her two front upper teeth has open space between them that could slip knife blade. Scott Hendricks, age about twenty-five, tall, slender, dark skin, black hair, about six feet tall, weight about one hundred and fifty pounds. Girl works in mill as quiller. Both well dressed when last seen. Man as card room hand and sometimes plays baseball. Both parties may be passing under an assumed name.

If located together arrest, hold and wire

W. G. Moss or Chief of Police
Kings Mountain, N. C.

For Sale

One pair 60 Spindle 11x5½ Woonsocket Slubbers, with chain driven carriage, late model and in perfect condition. High Shoals Mill, High Shoals, N. C.

Wanted

A good section man for 17 twist-ers and 7 spoolers. Apply R. S. Wooten, Wilson Cotton Mills, Wilson, N. C.

Wanted

Spindle Plumber. Must be first-class or don't apply. Pay 50 cents per hour. Jno. W. Ridenhour, P. O. Box 3, Albemarle, N. C.

Wanted

Tieing-in machine operator who can operate and fix machine. Very light job. Apply T. M. C., care Southern Textile Bulletin.

Wanted

Position as superintendent. Forty years old, married. Twenty years experience in all phases of cotton manufacturing. Graduate of Textile College. A-1 references as to character, executive ability, etc. Address: "Experienced," care Southern Textile Bulletin.

WE BUY FOR SPOT CASH

Surplus and Odd Lots of Chemicals

Oils, Dyes, Intermediates, solvents, gums, glues, waxes, and any item of a chemical nature.

REPUBLIC CHEMICAL CORP.
303 Pearl Street. New York, N. Y.

Wanted

Experienced cloth room and finishing room overseer for mill on chambray, denim and other coarse colored cottons. Apply J. A. M., care Southern Textile Bulletin.

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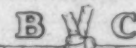
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